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ANNUAL MEETING
A. D. A.
AUGUST 4-8, 1947

● The first full scientific meeting of the Association since 1941 will be held August 4-8 in Boston. A complete program of scientific essays, clinics, exhibits and motion pictures will appear in the July 1 issue of The Journal.

● All housing arrangements are to be made through the Housing Bureau of the Boston Chamber of Commerce. Reservations are now being accepted.

● On pages A-22 and A-23 of this issue of The Journal, a detailed statement of the housing program appears. A coupon to be used for requesting reservations also is provided.

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THE Journal OF THE
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JUNE 15, 1947 • VOLUME 34 • NUMBER 12

SIMPLIFIED TECHNIC FOR CONSTRUCTION OF GOLD INLAY

J. Eisenstark, D.D.S., New York

THE recommended technic is a combination of recognized and proved methods[1] (including one for precision casting which is as perfect mechanically as is possible at present), together with modifications that ultimately produce, simply and unerringly, cast gold inlays, onlays or crowns that fit the cavity preparation. Alginate impression material was chosen because of its desirable physical properties such as simple mixing, controlled set, rubberlike consistency, toughness and resiliency. These properties provide means for reproducing single or multiple cavity preparations without discomfort to the patient and with full confidence that the castings will fit.

Material and Equipment

Figure 1 shows the material and equipment used for carrying out the recommended technic. One 21 gm. package of the alginate impression material is weighed out in 3 gm. portions into coin envelopes for convenience. Each portion is sufficient for the average inlay impression. Two portions will cover three or four teeth and a full package of 21 gm. plus 56 cc. of water is sufficient for a detailed impression of the mouth.

The equipment includes: (1) a 10 cc. or 20 cc. graduate; (2) a small cup or rubber bowl and a spatula for mixing; (3) a 2 cc. or 5 cc. Luer-Lok glass syringe with 22, 20 and 18 gage needles (the gage used depending on the spaces between the teeth and the size of the locking grooves or retention pinholes in the preparation); (4) a Fahrenheit thermometer graded from 0 to 120 degrees, and (5) a perforated full crown and bridge tray or similar trays lined with compound to retain the impression material.

Neither heating nor chilling of the impression material is necessary, and no pressure need be applied to the teeth. The alginates are used at approximately 70 F., thus eliminating thermal shock to

1. Kendrick, Z. Vance, Sears Hydrocolloid Impression Technic in Restorative Dentistry. *J.A.D.A.* 33: 445 (April 1) 1946.

Figure 1

the teeth. Accurate static impressions are obtained of a dry area because no saliva need be present to act as a separating medium. Additional impressions of the teeth and area are exact duplicates of the original. Their casts can serve as master models and as a double check on the accuracy of the originals. If the wax patterns and subsequent castings fit the preparation of the dies and the master models they will fit in the mouth. Restorations which approximate each other can be made from one impression. Fixed bridges and partial dentures can be constructed from start to completion on the master model, thus saving time at the chair.

The Impression

It is preferable to complete all cavity preparations before taking the impression (Fig. 2), and it is important that the gingival tissue be pushed away from the margins of the preparation.

A tray that will cover the area concerned is selected. If only one inlay is to be made, a crown and bridge tray that has been cut down to half the size can be used. The average crown and bridge tray will accommodate as many as two to five approximating inlay preparations of the area covered by a three to four unit fixed bridge. A full mouth tray is used when extensive restorations such as partial dentures are to be made.

Eight cubic centimeters of water at approximately 70 F. are measured and poured into the mixing bowl. One 3 gm. unit of the powder is emptied into the water and spatulated thoroughly for about thirty seconds until a smooth creamy mix is obtained. Two 3 gm. portions plus 16 cc. of water will make sufficient material for filling the average

Figure 2

Figure 3

crown and bridge tray. A small amount of the material is placed in the syringe and the remainder in the selected tray. The cavity preparation is then dried, and the material is injected with the syringe into the preparation (Fig. 3, metal model shown for better contrast). The gingival area is filled first, then the proximal walls, grooves and pinholes, and finally the occlusal area, the needle being withdrawn with a wiping motion to avoid pulling the impression material away from the tooth. The tray filled with the remainder of the material is next placed over the area, completing the impression (Fig. 4). It is of utmost importance to seat the tray firmly without any excessive pressure or springing, and once pressed into place there must be no movement until the material has set. After approximately three minutes the tray may be lifted out in the direction of the cavity preparation (Fig. 5). Excessive moisture or saliva is blown off and the impression is poured in one of the popular die stones, as heavy a mix as possible being used. The stone is vibrated to place on a mechanical vibrator. It is of utmost importance that the impression be poured as soon as possible after its removal from the mouth. Dimensional changes in the impression will take place if any time is permitted to elapse before the models[2] are made.

2. Skinner, E. W., and Pomes, C. E., Dimensional Stability of Alginate Impression Materials. *J.A.D.A.* 33:1253 (October 1) 1946.

Figure 4

Figure 5

An impression of the opposing teeth is then taken by any of the accepted methods for obtaining accurate occlusal relationships. When the stone loses its gloss, indicating that it has started to set, the model with the tray is placed in water at room temperature for at least thirty minutes.

If two or more approximating preparations or a fixed bridge are to be made, it is advisable to take two impressions of the same area. With this method, the teeth of one cast can be cut apart to be used as individual dies (Fig. 6) for waxing up, marginal finishing and polishing. The other cast can be used to obtain accurate contact and occlusion during waxing (Fig. 7) and for final finishing (Fig. 8). This second cast can be referred to as the master model. If the gingival areas on this cast are not sufficiently clean, they may be cut away slightly in order to avoid damaging the wax pattern during fitting. This can be done with a fine plaster coping saw. If the wax pattern fits both the die and the master model, the operator can proceed with the assurance that the models are exact duplicates of the teeth.

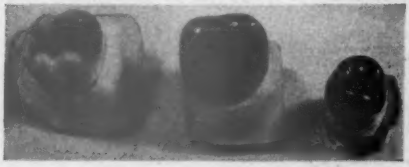

Figure 6

Figure 7

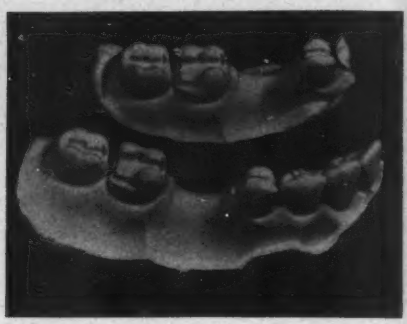

Figure 9

The Model

In order to obtain a perfect result with this inlay technic, a precision casting method[3] should be used which has proved itself to be as perfect mechanically as is possible at present.

After the models have been separated (Fig. 9), they are set near or in a warm place for several hours, preferably overnight, so that they will dry completely. They are then submerged in a fine oil (hair oil, if obtainable) and then, if possible, are placed in a vacuum or suction machine that will draw out all the air in the model, replacing and saturating it with oil. After removal from the oil bath (when all air bubbles have ceased to rise) the models are dried on a towel or absorbent paper. With this method a model is obtained with oil in it and not on the surface where it would act as a separating medium.

The Wax Pattern

Inlay wax is softened and compressed into the cavity preparation. After it has hardened partially the wax pattern is removed from the model and all excess wax is trimmed off with a knife. The pattern is replaced on the die, and the wax is covered with a piece of moistened rubber dam. A spatula is heated and applied to the margins very lightly to obtain a perfect seal between the wax and the model. The instrument should not be allowed to come in direct con-

3. Schen, C. H., A New Precision Casting Technic. *J.A.D.A.* 19:630 (April) 1932.

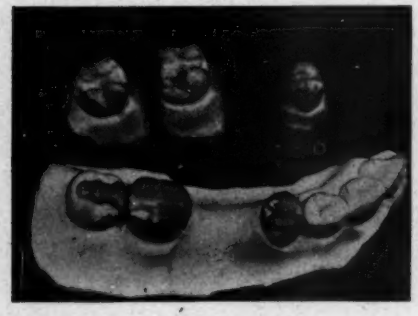

Figure 8

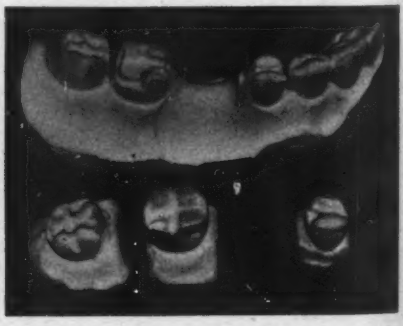

Figure 10

Figure 11

Figure 12

tact with the fine margins of the preparations. After carving and sprueing have been accomplished the pattern is ready to be invested.

Investing

Before proceeding with this step the operator should assemble the following articles: (1) a mechanical mixer with a bowl; (2) 15 cc. of water at room temperature; (3) 50 gm. of investment; (4) an inlay ring lined with asbestos; (5) a glass slab; (6) a large square glass dish or bowl that will accommodate enough water at 100 F. to cover the inlay ring and the crucible former, and (7) a fine No. 2 sable brush.

The investment is mixed mechanically and poured into the ring which has been set on the glass slab. Some investment is picked up on the brush and placed on one corner of the pattern. It is flowed and pushed into all corners and details of the pattern. The investment should not be painted or blown. This traps air and causes nodules. The pattern is embedded in the investment-filled flask without vibrating. The glass slab with the invested pattern is picked up and turned upside down. The pattern is slid carefully off the slab and the ring is submerged immediately in the water at 100 F. and allowed to stand for at least a half hour or more.

Wax Elimination and Casting

A furnace with a pyrometer should be used. The ring is put in position in a cold oven, and the heat is slowly raised to about 250 F. (fifteen minutes). Thereafter, at quarter-hour intervals, the heat is turned up slowly until 1,000 F. is obtained (approximately one hour). This temperature is held for an additional fifteen minutes (heat soaking). Toward the end of this heat soaking period the gold is prepared by cleaning and preheating it in the crucible of the casting machine. The inlay ring is removed from the oven and cast. The casting should not be plunged into cold water until the button has turned black.

It will be found that the final castings will fit the dies on which they were waxed, as well as the master model (Figs. 10 and 11) and the original preparation in the mouth (Fig. 12). If a fixed bridge is to be made, the inlays or crowns can be seated on the master model, and the bridge can then be completed by construction of the pontics directly on this cast. It will be noted that the bridge fits both the master cast and the original model of the mouth shown in ivorine.

This technic can be used also when extensive restorations are indicated, in-

cluding bite raising, large fixed bridges and partial dentures. In these cases, two, three or four impressions are taken for the individual dies, the proportions of the mix being doubled or tripled, as is deemed necessary. An impression of the entire mouth is then taken for the master model on which the entire case can be completed without tryins or reference to the patient.

Conclusion

I have used this technic, with gratifying success, for all types and sizes of castings. In my opinion it is superior to all other previously used technics in its ease of handling, comfort to the patient, minimization of injury to the teeth and accuracy of reproduction.—*33 West Forty-Second Street.*

LESIONS OF THE SOFT AND BONY TISSUES AROUND THE MOUTH: SYMPTOMS AND TREATMENT

George W. Christiansen, D.D.S., M.S., Detroit

THE oral cavity contains several kinds of tissue: gingiva, buccal mucosa, palatal mucoperiosteum and the highly specialized epithelium of the dorsal surface of the tongue. A cancellous type of tissue, the alveolar bone, attaches the teeth to the maxillary bones, and a cortical plate covers the other surfaces of the maxillary bones. This hard shell is much thicker in the mandible than in the maxilla, a factor which influences the course of invasive processes which originate in the apical regions of the teeth.

Reaction to local irritation and to local disease and oral manifestations of systemic disease create significant changes in some of these tissues. Dental practitioners must be able to recognize these variations, for among the conditions which may affect the soft tissues of the mouth are: precancerous lesions, pseudomalignancy, malignancy, blood dyscrasias, avitaminosis, parotitis, mixed tumors of the parotid gland and of the soft palate, acute infectious disease (diphtheria, scarlet fever, measles), syphilis and gonorrheal stomatitis.

The bony tissues, the alveolar ridges, the hard palate and the maxillary bones are subject to acute alveolar and periodontal abscesses, cysts, tumors, osteomyelitis, osteoma, Paget's disease (osteitis deformans), antra-oral and naso-oral fistulas and also to tumors of the maxillary antra.

Mucocele

The lips and buccal mucosa contain many mucous glands whose secretions lubricate these surfaces. Failure of the outlet of a duct to operate adequately causes swelling and enlargement of the gland and produces a mucocele. This dilatation appears as a bluish protrusion of the surface of the lip, which may become tender. In any event it is an annoyance because of the tendency to be injured by the teeth.

Surgical removal by incision of the overlying mucous membrane and care-

Read at the midwinter meeting of the Chicago Dental Society, February 11, 1947.

ful dissection constitute satisfactory treatment. Care must be used to find and excise any small branches, or early recurrence is probable.

Traumatic Fibroma

Accidental injury from the teeth and continued irritation of the bitten area produce a mass of firm semicartilaginous tissue, the traumatic fibroma. Surgical removal is simple.

Lichen Planus

Lichen planus, a disease occurring in persons between the ages of 35 and 45, is found more commonly in women than in men and particularly in those who have neurotic tendencies; worry is thought to be a cause.[1]

The lesions, which are found posteriorly on the cheek and at the vermilion border of the lip, are smooth and nondiscrete and do not color when Lugol's solution is applied. The key to the diagnosis is the faint greyish network of markings found on the lips. Prognosis is favorable, for malignant change rarely follows.[1]

Leukoplakia

In leukoplakia, lesions resembling singed meat are found at the angle of the mouth and backward on both dorsal and ventral surfaces of the tongue, and as nodules on the palate. Leukoplakia is most common after the age of 40 and is rarely found in women. The causes are: poor oral hygiene, chronic irritation, systemic disease (syphilis), constitutional factors and poor nutrition.

Leukoplakia usually manifests itself in one of two ways: (1) as superficial greyish pseudomembranous lesions and (2) as a furrowed, leathery, rough surface. The first condition may disappear on withdrawal of the irritation, but the second is justly suspected of being premalignant and does not often respond to a change of habits.

Disorders of Parotid Gland

Acute disease or growths in the parotid gland interfere with mastication by causing trismus through tenderness. There are three general types:

1. Abscess from foreign bodies, such as salivary calculus, in the duct. Pain comes from occlusion of the duct by the obstruction. Treatment consists of probing to locate the calculus and then removing it.

2. Dehydration after prolonged surgical procedures. According to Furstenberg,[2] this may be an etiologic agent, but acute surgical parotitis asserts itself intraorally by redness and inflammation of the lumen of Stensen's duct, with suppuration. The tenderness may extend to the adjacent maxillary ridge, suggesting dental or antral involvement, but forward massage of the duct generally produces pus. Treatment is systemic rather than local, usually with Lugol's solution, as described by Leithauser and Cantor.[3]

3. Extension from neighboring infections such as from retropharyngeal or peritonsillar regions.

Mixed Tumor of Parotid Gland

Mixed tumor of the parotid gland develops as a smooth enlargement of the gland and gradually leads to a degree of trismus. It is to be differentiated from lymphadenitis, tuberculous glands or lymphosarcoma; of great value in this differentiation is the injection of an opaque oil into Stensen's duct with a blunt needle. Subsequent roentgeno-

1. Burket, L. W., *Oral Medicine, Diagnosis, Treatment.* Philadelphia: J. B. Lippincott Co., 1946.

2. Furstenberg, A. C., Parotid Gland; Its Common Disorders. *J.A.M.A.* 117:1594 (November 8) 1941.

3. Leithauser, D. J., and Cantor, M. O., Massive Doses of Lugol's Solution in Acute, Secondary Parotitis. *Ann. Surg.* 111:650 (April) 1940.

grams usually reveal that the intraglandular mass has caused a change in the course of the duct. Enucleation of the growth requires considerable surgical enterprise because of the proximity of the branches of the seventh nerve.

Authorities disagree as to whether a mixed tumor should receive surgical care early or not until later when it is larger.[4-6] There is a disquieting frequency of recurrence, and some practitioners doubt that surgical intervention offers a cure.

Lesions of Vincent's Infection

Lesions of Vincent's infection are found on the lips, buccal mucosa and soft palate. Since the lesions may or may not be associated at certain stages with gingival manifestations, they occasionally are not recognized. Smears of the oral lesions and also the presence of lesions in the throat are aids in differential diagnosis.

Mixed Tumor of Palate

In the soft palate, which is usually a thin wall-like curtain of soft tissue, a mixed tumor may grow. Such a growth causes thickening and decreases the mobility of the structure. Excision needs to be thorough, even at the expense of perforation; cautery, too, may be advisable. On sectioning an aberrant salivary gland may be found, but if eradication can be accomplished without entering the capsule the danger of recurrence is slight.

The Tongue

The tongue is subject to disease of purely local origin and to those lesions that are manifestations of systemic illness, to transient biting injuries and to chronic irritation from sharp teeth, prosthetic appliances and burns from smoking. Generally the systemic disorders which are reflected in the tongue are either infectious or nutritional. Any oral examination which fails to evaluate abnormalities in color, size, tenderness or mobility of the tongue is incomplete.

Scarlet fever during its course produces changes in the appearance of the tongue, from the stage of heavy coating to the terminal stage when the tongue presents a strawberry-like appearance.

The primary lesion of syphilis, the chancre, may be found on the tongue. In the later stages of syphilis, the tongue may show mucous patches, which are the result of actual invasion of the blood vessels in the papillae by spirochetes, and finally the sloughing ulcer, the gumma.

Nutritional deficiencies,[7] pellagra and anemia may also produce changes in the tongue which may be helpful in diagnosis. In fact, the appearance of the tongue suggests the health status of the person. Crohn and Drosd[8] have pointed out:

> Reflexly, through the autonomic nervous system, by means of deviations in vasomotor control, the tongue reflects the state of hydration in the body, the conditions of digestive activity in the alimentary tract, the general health of the individual. The delicate filiform papillae act as the bellwether of the body politic, raising themselves to gather mass and debris when all is not well; smooth and velvety and clean when conditions are appropriate for health and normal function.

Bony Lesions

Because the maxillary bones consist of a heavy outside table of bone enclosing thin cancellous material, these bones present an interesting series of reactions to the various types of injury, irritations and conditions to which they are subjected.

The mandibular ridge and the midline

4. Patey, D. H., Treatment of Mixed Tumors of Parotid Gland. *Brit. J. Surg.* 28:29 (July) 1940

5. Bailey, Hamilton, Treatment of Tumors of Parotid Gland with Special Reference to Total Parotidectomy. *Brit. J. Surg.* 28:337 (January) 1941.

6. McFarland, Joseph, The Mysterious Mixed Tumors of the Salivary Glands. *Surg., Gynec. & Obst.* 76:23 (January) 1943.

7. Darby, W. J.; Jones, E., and Johnson, H. C., Effect of Synthetic Lactobacillus Casei Factor in Treatment of Sprue. *J.A.M.A.* 130:780 (March 23) 1946.

8. Crohn, B. B., and Drosd, R., Coated Tongue. *Gastroenterology* 1:34 (January) 1943.

of the hard palate are common sites of hard masses of dense bone, the torus mandibularis and palatinus. Enlargement of these lumps is slow, but the patient, when he finally notices them, fears cancer and usually desires an examination.

These bony lesions occur generally on the lingual surface of the ridge medial to the bicuspids and more rarely on the buccal surface. Removal of the buccal lesions is simple, but much unnecessary soreness follows interference on the lingual surface if an adequate semicircular flap is not provided and protected during the surgical procedure. To leave denuded bone invites poor healing and pain.

The operation is more difficult in the palate where careful plans are needed to provide an adequate flap with which to cover the field when the operation is completed. Also, the palate accidentally may be perforated and a naso-oral fistula produced. Complete exposure and free use of a bur to cut across the protruding bone are safeguards against such an accident. A narrow chisel placed in the deep bur cuts permits easy reduction.

Radicular Cysts

The transition of an infection diffused over a large apical region to a cystic state is not clearly marked chronologically but seems rather to be a matter of growth; thus at one stage such a growth is labeled pericementoma and, at another, cyst. The fact that destruction of bone at the ends of the root is cystogenic is not even controversial, for large radicular cysts are necessarily overgrown pericementomas, in appearance at least, and this genesis seems logical. Stress should be placed on complete enucleation, which should be accomplished through an alveolar window rather than by the tortuous uncertain socket route.

The basic objectives of treatment of cysts embody two results, adequate exposure to reach the contents and preservation of the ridge from mutilation. Attainment of both of these objectives depends on the approach. For example, if the lesion is in the body of the mandible and extends from the bicuspid teeth to the angle with buccal protrusion, the thinnest bone can be expected at the crest of the bulge. A window made there will not harm the ridge and yet will afford an excellent approach. The supporting structure of the teeth is undermined by the tumor and hence stress during extraction can break away future denture bearing surface. A lateral approach yields sufficient access and drainage, so no extractions need be made at the time of the enucleation of the cyst. At this time the practitioner is not even too sure which teeth are destroyed, and the best plan is to leave the communicating teeth undisturbed until new support has developed for the fragile ridge. After perhaps two months, much rebuilding is present and extractions can be made safely. A safe rule, and one which will establish the operator as an experienced practitioner rather than as a novice, is to treat the cyst first and to remove the teeth later as a final measure rather than as an initial step. This treatment is equally applicable to follicular cysts. Expansion from intracystic pressure reduces the periphery of bone to a mere shell, and yet prevention of deformity depends on preservation of this bone in the ridge region.

Maxillary Cysts

A nice distinction exists between the maxillary tumor and the maxillary cyst and the two are often confused.

Growth of a cyst in the region of the antrum of Highmore causes the antrum to recede to minimal proportions, or the air space may be invaded by an extension of the tumor. In either event the separation is only membranous, so puncture or perforation of the membrane threatens during enucleation of the cyst. Therefore, knowledge of the exact outline of the

growth should be obtained by roentgenograms taken after an opaque oil has been injected into the cystic space. Armed with this information the operator usually can avoid mistakes.

Osteomyelitis

Osteomyelitis, a painful destructive lesion of bone, frequently is found in the maxillary bones. Symptoms include death of the dental pulp, severe pain and soreness in a tooth, and then swelling of the jaw with persisting distress in the region. The history of too many of these cases shows the patient going for extraction of the offending tooth to several dentists, none of whom is willing to extract the tooth. Fear of removing the tooth at such a critical time is archaic and is not based on pathologic facts. If drainage were accomplished through a socket, deep invasion of the weakly resistant cancellous bone would be avoided since this penetration takes place because the intra-osseous pressure is not relieved.

Even if the tooth is not extracted when it should be, another opportunity remains to abort extensive bone damage. Drainage can be accomplished through early thorough incision of overlying soft tissues and if necessary the bone can be punctured for the same reason. Pus will actually spurt through a bone opening if the opening is made at the proper time. The tragic sequelae of failure to recognize the need for this operation are well known: unnecessary pain, discomfort, prolonged disability, suppuration and finally sequestration.

The sulfonamide drugs and penicillin are valuable aids in the treatment of osteomyelitis, but without the help of sound surgical principles, good nutrition and thorough, timely drainage, the maximum benefits will not be obtained.

Summary

Clinical examination of the oral cavity, supported by careful roentgenographic aids, is an integral part of a general physical examination. Early and easily observable signs of local and systemic disease are found in the mouth, and the discovery of them in nascent form can be the means of simple treatment and quick recovery. Only by recognizing and recording such findings can the dental practitioner justify his enviable position in the healing art.—*413 David Whitney Building.*

Health and Accident Insurance.—On the basis of a survey conducted by its Insurance Department, the Chamber of Commerce of the United States estimates that approximately 40 per cent of the employees in private industry (excluding agricultural employees) have insurance, or some other form of protection, against loss of wages due to temporary disability. This protection is provided for these employees by private voluntary means.

This survey, which is based upon reports from accident and health insurance companies writing approximately 94 per cent of the accident and health insurance in force in the United States, showed that at December 31, 1945, 23,000 employers in the United States had group insurance policies in force providing accident and health insurance for 5,928,333 employees. The average amount of protection provided for these employees was $17 a week, and one out of five covered employees received benefits under these policies during 1945.—*Chamber of Commerce Release, December 26, 1946.*

PROTECTION OF THE PULP UNDER SILICATE CEMENTS WITH CAVITY VARNISHES AND CEMENT LININGS

H. A. Zander, M.S., D.D.S., and Irene Pejko, M.S., Boston

THE clinical experience of most dentists and evidence from several published reports have established the fact that modern silicate cements are injurious to the pulp and directly or indirectly cause the loss of valuable teeth. Manley,[1] Shroff[2] and one of us (H.A.Z.)[3] have demonstrated that the so-called improved silicate cements now on the market still produce undesirable reactions in the pulp. To protect the pulp from the effect of silicates, many types of cavity varnishes have been made available to the dentist in trade products through dental supply houses and as formulas which may be made up by a druggist or in the dental office. The active ingredients of these varnishes are film forming agents such as copal, nitrocellulose, rosin, sandarac, plus plasticizers and an appropriate solvent such as acetone, benzol, alcohol or acetates of the lower alcohols. These varnishes are used as insulators and sealers of dentinal tubules.

Because of the importance of providing the best possible protection for the pulp under silicate cement restorations, it seemed desirable to test the efficiency of various preparations in preventing undesirable reactions.

Method of Study

The following varnishes were tested: Copalite, Moyco, Repelac, S. S. White and a varnish which was made by dissolving sandarac perles in 95 per cent alcohol.[4]

All materials were purchased on the open market. To safeguard against possible variations in the products, ten bottles of each type of varnish were pooled in a single container. The silicate cements used were S. S. White Filling Porcelain Improved, No. 21, and De-Trey's Synthetic Porcelain, No. 21, made by the L. D. Caulk Co. Both of the silicate cements mentioned have produced similar pulpal reactions in previous experiments.

Cavity preparations were made in the gingival (labial) third region of the anterior teeth of 10 dogs and 11 human beings. All teeth were noncarious; the human teeth were to be extracted for prosthetic purposes. In sixty-two of the one hundred dog teeth and in twenty-eight of the forty-seven human teeth, a cavity varnish was applied before insertion of the silicate cement. The var-

From the Department of Clinical Dentistry, Tufts College Dental School.

This work was aided by a grant from the Council on Dental Therapeutics of the American Dental Association.

Read at the eighty-second midwinter meeting of the Chicago Dental Society, Chicago, February 11, 1947.

1. Manley, E. B., Investigations into the Early Effects of Various Filling Materials on the Human Pulp. *D. Record* 62:1 (January) 1942.

2. Shroff, F. R., Effects of Filling Materials on the Dental Pulp: An Histological Experimental Study with Special Reference to Synthetic Porcelain. *New Zealand D. J.* 42:99 (July), 145 (October) 1946.

3. Zander, H. A., The Reaction of Dental Pulps to Silicate Cements. *J.A.D.A.* 33:1233 (October) 1946.

4. The composition of Copalite, which is manufactured by H. J. Bosworth Co., is unknown. The following statements of composition are based on information supplied to the Council on Dental Therapeutics by the respective companies: J. Bird Moyer Co., June 4, 1945—Moyco cavity lining contains for each 100 gm., ethyl cellulose 0.97 gm. and ethyl acetate 99.03 gm. S. S. White Company, October 17, 1944—S. S. White cavity lining and varnish contains half second nitrocotton (air dried) 12.0, alcohol (in cotton) 5.0, hercolyn (rosin derivative) Hercules Powder Co. 6.0, lindol A (tricresyl phosphate) 3.0, butyl acetate 1.0, ethyl acetate 39.0 and toluol q.s. 100.0 (no information on whether amounts are per cent by volume or per cent by weight). L. D. Caulk Co., October 24, 1944—Repelac cavity lining contains nitrocellulose base (duPont) 58.0 per cent by volume (nitrocellulose 8.8, denatured alcohol 4.7, isopropyl acetone 51.8 and amyl acetate 34.7 per cent), benzol 39.0, castor oil 2.2 and oil of cloves 0.8.

nishes were applied according to directions given by the manufacturers.

In the series composed of human teeth, cavities of comparable teeth (with and without cavity varnish) were always filled with portions of a single mix of silicate cement. The teeth chosen for comparison had cavities of approximately the same depth and size. The distribution of human teeth in these experiments is shown in the table. Human teeth were extracted at intervals varying from one to fifteen weeks after cavity preparation and filling.

Teeth in one quadrant of the dogs' jaws received an application of cavity varnish before insertion of the silicate cement, and the teeth in the opposite quadrant served as a control and were filled with the same mix of silicate without cavity varnish. After a period of one week 3 dogs were killed; six weeks later, 1 was killed, and three months after conclusion of this experiment, the re-

Summary of studies of silicate cement restorations with and without varnish

Patient	Teeth used for cavity preparation	Copalite	Moyco	Repelac	S.S. White	Sandarac	Control (no varnish under silicate filling)	Tooth filled, weeks
1	L.R. 1, 2, 3 L.L. 1, 2, 3		L.L. 1, 2, 3				L.R. 1, 2, 3	3
2	L.R. 1, 2, 3 L.L. 1, 2, 3			L.L. 1, 2, 3			L.R. 1, 2, 3	5
3	L.R. 1, 3, 4 L.L. 1, 3				L.R. 1, 3, 4		L.L. 1, 3	6
4	U.R. 1, 3 U.L. 1, 2, 3	U.L. 2, 3				U.L. 1	U.R. 1, 3	11
5	U.R. 1, 3 U.L. 1		U.L. 1	U.R. 3			U.R. 1	4
6	U.R. 1 U.L. 1				U.L. 1		U.R. 1	15
7	U.R. 4 U.L. 4	U.L. 4					U.R. 4	15
8	U.R. 3, U.L. 3 L.R. 2, 3 L.L. 1	U.R. 3 U.L. 3				L.L. 1 L.R. 2	L.R. 3	8
9	U.R. 3 L.R. 3				U.R. 3		L.R. 3	1
10	U.L. 3, 4 U.R. 3, 4				U.L. 4	U.R. 3, 4	U.L. 3	5
11	U.R. 3, 4 U.L. 4				U.R. 3, 4		U.L. 4	4
12	L.R. 1, 2 L.L. 1, 3	L.L. 1, 3					L.R. 1, 2	6

maining 6 were killed. All teeth were fixed in Zenker Formalin (nine parts of Zenker's solution and one part of 40 per cent formalin), decalcified in nitric acid, embedded in celloidin, sectioned and stained with hematoxylin and eosin.

Results

Whether or not cavity varnishes were used before the teeth were filled with silicate cement, all human and dog teeth showed a similar pulpal reaction. A typical example of the results is that in the lower central incisors of patient 1 (see table). The lower right central incisor was filled without application of varnish (Fig. 1, left); the lower left central incisor had a coat of cavity lining underneath the silicate restoration (Fig. 1, right); three weeks later these teeth were extracted. The photomicrographs show the same histologic picture (Figs. 1 and 2). The odontoblasts, which correspond to the tubules in contact with the cavity, are destroyed or degenerated. There are signs of hyperemia with extravasation of blood. Small capillaries are close to the dentin and appear to reach into the predentinal layer. The part of the pulp adjacent to the destroyed odontoblastic zone presents round cell infiltration with polymorphonuclear leukocytes predominating.

The histopathologic picture of the sections examined in this study ranged from mild hyperemia and inflammation to abscess formation and necrosis. This is in keeping with our previous finding that the reaction of the pulp in sound teeth to silicate cements depends on the depth of cavity preparation, the length of time the restoration had been in position, the age of the patient and differences in the

Fig. 1.—Left: High power magnification of lower right central incisor of patient 1: A, cavity; B, dentin; C, pulp. Right: High power magnification of lower left central incisor of patient 1: A, cavity; B, dentin; C, pulp

reactivity of different persons.[3] In comparable teeth with or without varnish, the type of reaction is similar, although occasional differences were noted in the severity of these reactions. Pulps which had been protected by an application of cavity varnish before the insertion of the silicate cement tended to show a less severe reaction.

Figures 3 and 4 (patient 6) show comparable teeth. The cavity in the upper left central incisor received an applica-

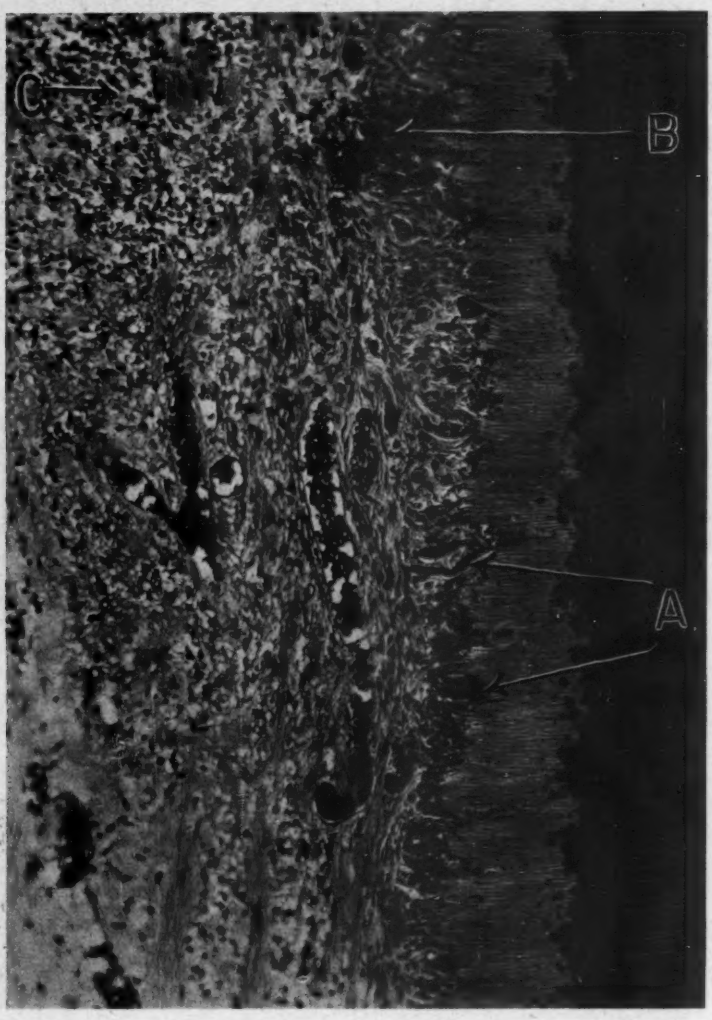

Fig. 2.—High power magnification of inflammation of pulp in Figure 1, left: A, capillaries reaching into predentin; B, extravasation of blood; C, round cell infiltration

tion of varnish before it was filled with silicate cement (Fig. 3); that in the upper right central incisor, the control, had no varnish under the silicate restoration (Fig. 4). Both teeth were extracted fifteen weeks after cavity preparation and restoration with silicate cement; both showed the same type of pulpal response. The odontoblasts adjacent to the tubules leading from cavity to pulp are degenerated or entirely missing. The connective tissue is infiltrated with round cells consisting of leukocytes, lymphocytes and plasma cells. However, the degree of these changes is less severe in the tooth with the varnished cavity than in the tooth with the cavity without varnish.

The number of teeth studied was not sufficient to draw statistically significant conclusions as to the superiority of one type of cavity varnish over another. They

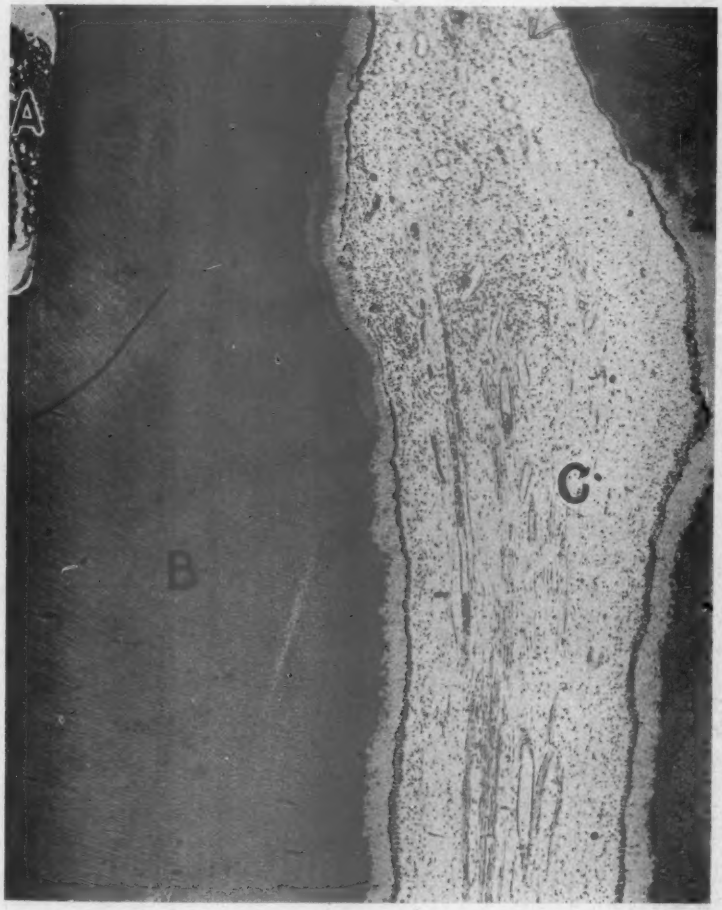

Fig. 3.—High power magnification of upper left central incisor of patient 6: A, cavity; B, dentin; C, inflammation of pulp

were all ineffective in totally preventing irritation of the pulp by silicate cements in human beings as well as in dogs. Some apparently diminished the severity of the pulpal reaction to silicate cements.

Comment

Since the value of any conclusions depends on the pulpal disease attributable to the silicate fillings and not to the effect of variable factors such as mechanical procedures in cavity preparation, age of the patient, local and systemic disease and inherent variations in tissue response, it is important to point out that such variables operate in both the experimental and control groups. Manley[1] and one of us (H.A.Z.)[8] compared the pulpal reaction to silicate cement and zinc oxide and eugenol. Both came to the conclusion that silicate cements have marked irritating effects on the pulp and that

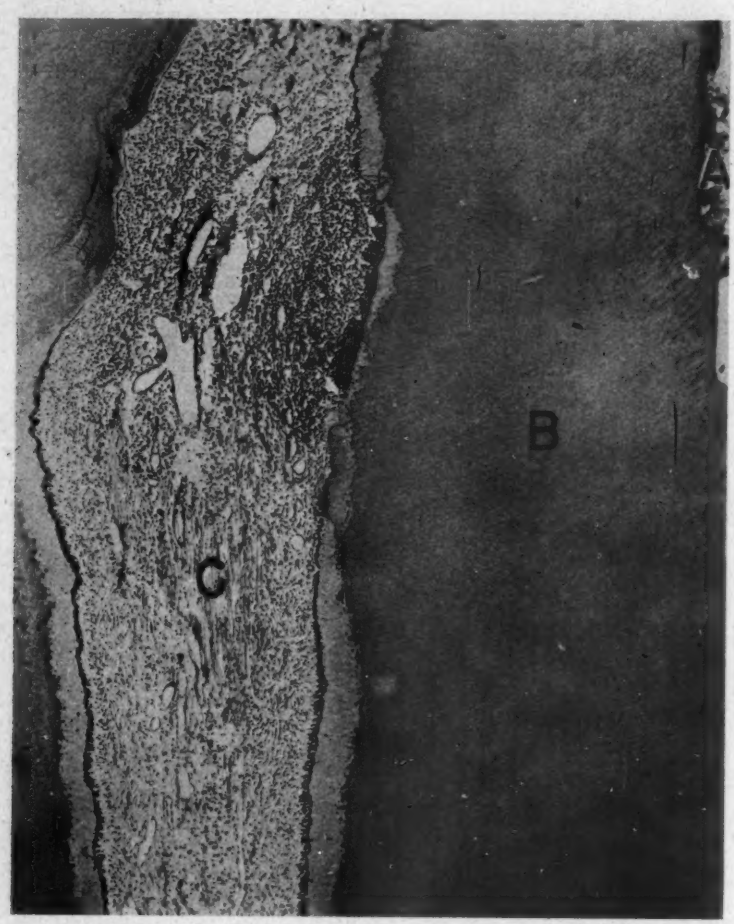

Fig. 4.—High power magnification of upper right central incisor of patient 6: A, cavity; B, dentin; C, inflammation of pulp

zinc oxide and eugenol are relatively bland. Shroff[2] studied the pulpal reaction to silicate cement using asbestos and saline as a control. The results of his study are comparable to the foregoing conclusions regarding the irritating properties of silicate cements. Therefore, one may draw conclusions from the experiment comparing the severity of pulpal irritation under silicate cements with and without a cavity liner. Certainly dentists cannot rely on any of these cavity varnishes for the prevention of all pulpal irritation.

Furthermore, *in vitro* tests have proved that these cavity liners are semipermeable membranes through which acids can pass by osmosis. Theoretically it is possible to have an impermeable membrane, which would form an ideal cavity liner. Certainly there is a definite need for improvement in the cavity liners tested.

If silicate cement must be used as a restorative material, how can pulpal damage be avoided until foolproof cavity liners are found? Would a base of zinc phosphate cement be the solution? Figure 5 shows schematic drawings of cross sections of a tooth with a cavity which contains a cement base underneath a silicate restoration. The base

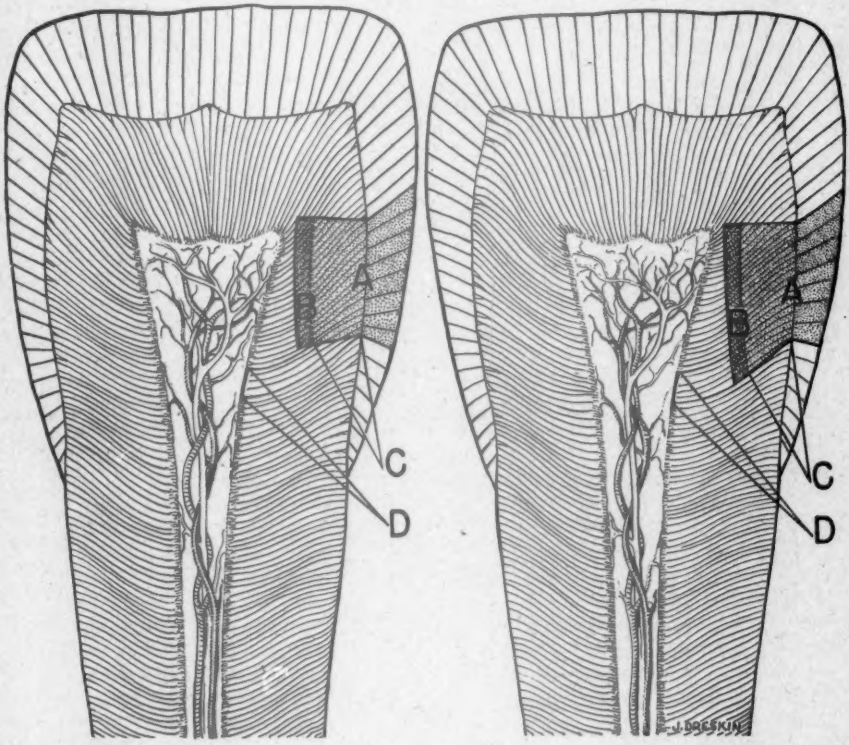

Fig. 5.—Schematic drawings of a tooth with a cavity (A) and a cement base (B). Left: If the cavity is filled with silicate cement, dentinal tubules at C are in contact with this material, and a pulpal reaction occurs at D. Right: The floor of the cavity is parallel to the direction of the dentinal tubules at C, and the cement base prevents damage of the pulp at D

in this cavity did not prevent damage in the region of the pulp, as indicated by D, because the dentinal tubules are in contact with the silicate cement in the cavity, as indicated by C (Fig. 5, left). If a cement base were to cover the cavity floor (C) to exclude the dentinal tubules from contact with the silicate cement, it would weaken the final silicate restoration. Owing to lack of bulk, the silicate filling would be of insufficient strength at the margin. Ordinary types of cement base obviously do not afford sufficient protection of the pulp from

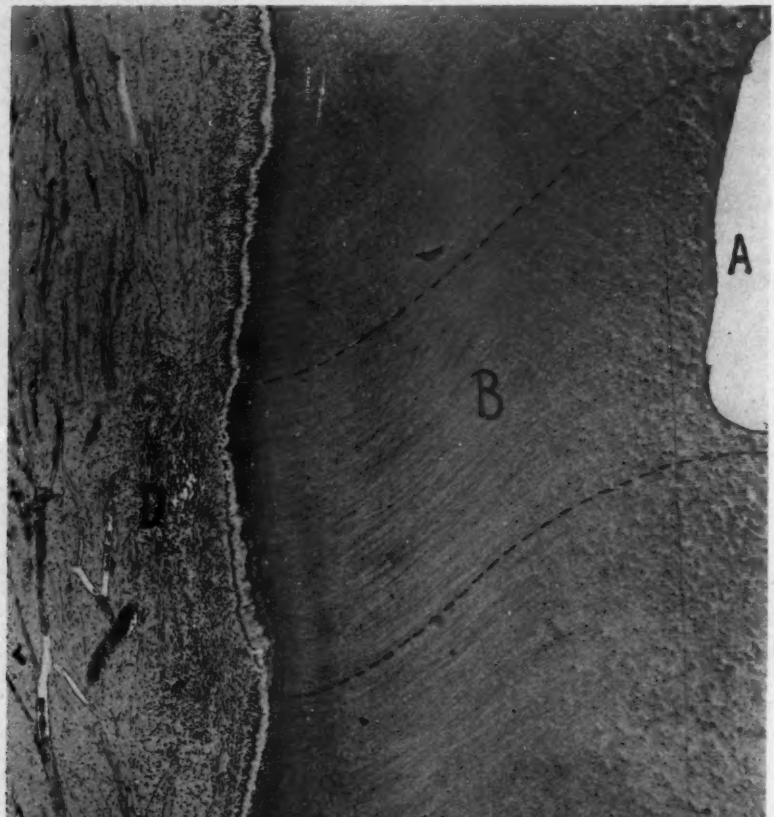

Fig. 6.—High power magnification of a sound tooth filled with zinc phosphate cement for three months; A, cavity; B, dentinal tubules cut during cavity preparation; C, irregular dentin formation; D, inflammation of pulp

the irritating effects of silicate cements.

Black's classic cavity preparation is rightly based on knowledge of the histologic structure of enamel. He stressed the fact that cavity outline must follow the direction of the enamel rods so that unsupported enamel rods do not remain at the cavity margin, and this is important in outlining cavities for silicate restoration. In preparing a cavity in the dentin, Black demands the box type, which is based on the requirement of retention and resistance to stress.

We feel that a modification based on the histologic (tubular) structure of the dentin is necessary for this type of filling material. If the floor of the cavity preparation follows the direction of the dentinal tubules instead of being at right angles to the long axis of the tooth, a cement base would provide proper protection because then all tubules, including those indicated by D, are shut off from the silicate by the cement lining (Fig. 5, right). By cutting the gingival floor of such cavities in the direction of the dentinal tubules, the axiogingival angle is less than 45 degrees. This angle will actually enhance the rentention for proximal as well as for gingival third restorations.

There is an alternative for protection of the pulp against the ill effects of silicate cements based on our knowledge of dental histology and physiology. Dentin is a vital tissue; it contains the processes of odontoblasts. When these processes are injured during cavity preparation and filling, they initiate a chain of defense reactions. The type of defense reaction and its outcome depends on the stimuli. Zinc phosphate cement is irritating but does not produce irreversible pulpal disease; therefore, it may be used to stimulate the formation of irregular dentin.[5,6] As shown in a previous report, irregular dentin acts as a barrier against the irritative qualities of silicate cement.[3] Therefore, a cavity filled with zinc phosphate cement for a period of three to six months will show irregular dentin formation blocking the tubules which lead from the cavity to the pulp (Fig. 6). After a period of three to six months the zinc phosphate cement may be removed and a silicate cement restoration placed with safety. This procedure has been used successfully by dentists for several years and is now used routinely by the students at Tufts College Dental School. This practice is especially indicated for silicate restorations in teeth of young people whose pulp normally lacks the irregular dentin formation which, as a result of age, is so often found in adults.

Zinc oxide and eugenol often has been recommended as a base because of its blandness. However, this cannot be used as a lining under silicate restorations because it alters the appearance of the final restoration, unless it is allowed to harden and the silicate restoration is placed at a later date.

Summary

Five cavity varnishes were applied to the teeth of human beings and dogs to test their efficacy in preventing undesirable pulpal reactions under silicate restorations. In sixty-two of the one hundred dog teeth and in twenty-eight of the forty-seven human teeth, a cavity varnish was used. The remainder of the teeth served as controls. It was found that cavity varnishes were not completely effective in preventing pulpal irritation, but they sometimes reduced the severity of the reaction. It is suggested that full pulpal protection can be provided by modifying cavity preparation and by using a zinc phosphate cement lining or delaying final restoration until the pulp has responded with the irregular dentin formation which provides a natural protection against the silicate cements.—*416 Huntington Avenue.*

5. Gurley, W. B., and Van Huysen, Grant, Histologic Changes in Teeth Due to Plastic Filling Materials. *J.A.D.A. 24*:1806 (November) 1937.
6. Zander, H. A., Unpublished data.

CLINICAL FACTORS IN THE USE OF AMALGAM

E. Carl Miller, D.D.S., Cleveland

AMALGAM possesses an unusual place in dentistry in that it is used more frequently than all the other filling materials combined. Because of its wide use it seems justifiable to give considerable attention to the technic of building the amalgam restoration. If amalgam fillings are severely criticized, it is because the technic utilized is not meticulously executed. Amalgam fillings are ardently defended by careful operators.

So much clinical and chemical research has been accomplished that the practicing dentist can now understand the management of amalgam. He should be able without much difficulty to select a practicable procedure which in most instances will give results that are satisfactory.

If the operator becomes acquainted with the variables of amalgam and adopts meticulous methods in the technic of building restorations, he will be rewarded by reasonably successful results. Until it is understood that desirable results necessitate considerable time, anatomic and unchanging amalgam fillings will be the exceptional results rather than the usual.

Moisture and Amalgam

Moisture will cause delayed expansion of alloys containing zinc.[1] The use of nonzinc alloys because they are compatible with careless technic is not advisable. It has been my experience that nonzinc alloys are not comparable to the zinc variety. Schoonover, Souder and Beall[2] warned: "Certainly, until a nonzinc alloy is produced which is as free of manipulative difficulties as the present zinc alloys, the dental profession should not discard alloy containing zinc." Should we discard the zinc alloys and use the nonzinc alloys, moisture in the amalgam would still constitute a problem. Taylor[3] has shown that moisture will decrease the crushing strength and cause brittleness of the amalgam. Blackwell[4] stated: "No amount of packing pressure on amalgam can possibly drive all the moisture from a cavity. . . . During the packing of the cavity, moisture interferes with the cohesion of the mass." He was concerned with leakage when he wrote: "Black has clearly shown that saliva drying in a cavity would leave a residue of soluble salts on the walls of the cavity which would be dissolved by the fluids of the mouth after the filling was placed." From these conclusions it appears that a dry field of operation is necessary if these undesirable factors are to be eliminated. In my opinion moisture contamination can be prevented only by the use of a rubber-dam.

Selection of an Alloy

All alloys that are certified by the Re-

Read at the eighty-second annual midwinter meeting of the Chicago Dental Society, February 11, 1947.

1. Research Commission, Excessive Expansion of Amalgam. *J.A.D.A.* 29:292 (February) 1942.

2. Schoonover, I. C.; Souder, Wilmer, and Beall, J. R., Excessive Expansion of Dental Amalgam. *J.A.D.A.* 29:1823 (October 1) 1942.

3. Taylor, N. O., Amalgam Technic: Dependable and Dangerous Practices. *J.A.D.A.* 17:1880 (October) 1930.

4. Blackwell, R. E., Amalgam Fillings, with Some Suggestions as to Their Practical Use. *J.A.D.A.* 18: 1179 (July) 1931.

search Commission of the American Dental Association are not the same in their management. Some are fast setting and others are slow. Some are easy to triturate and others are not. Some give up mercury generously in the squeeze cloth and others do not.

A fast setting amalgam is advantageous in one factor alone. It decreases the amount of time that the patient is in the chair. Fast setting amalgam has one disadvantage, however, which is worthy of attention. Rapid crystallization inhibits the removal of mercury from the portions of the triturated mass that are added after the first pieces are prepared and condensed in the cavity. Thus the mercury content of the filling would tend to vary with succeeding insertions.

Amalgam should not be too fast setting because, if it is to be condensed properly with portions of nearly the same consistency, it must be workable and not partially crystallized. For this reason it is advisable to prepare and use multiple mixes for large restorations, as suggested by Sweeney.[5]

The selection of an alloy can be guided by the research of Coy and Liebig.[6] Regular particles which are finely cut have the advantage of being easy to manage and less sensitive to the effect of trituration. This work was further confirmed by Jarabak,[7] who wrote: "Decrease in particle size causes a lessening of the effect of trituration on dimensional change. . . . In most instances, a greater sensitivity to dimensional change existed in the coarser particle sizes for given trituration and condensation."

From these observations it is reasonable to expect that fine regular particles give these advantages: (1) less time of trituration, (2) control of initial dimensional changes, (3) better adaptation, (4) greater tensile strength and (5) smoother surfaces.

5. Sweeney, J. T., Manipulation of Amalgam to Prevent Excessive Distortion and Corrosion. *J.A.D.A.* 31:373 (March 1) 1944.

6. Coy, H. D., and Liebig, E. O., Dental Amalgam. *D. Items Interest* 60:135 (February) 1938.

7. Jarabak, J. R., The Effect of Particle Size on Dimensional Change in Dental Amalgams. *J.A.D.A.* 29:593 (April) 1942.

Inconsistencies

Too often failures of amalgam restorations are the result of careless and inconsistent technical procedures. There is too much inconsistency relative to cavity preparation as well as the management of the material.

It should be understood generally that amalgam must be controlled by the operator, or the initial expansion or contraction will exceed the limits of safety. The cavity plays a more important role for amalgam than for any other filling material because amalgam has a greater coefficiency of expansion than the structure into which it is placed. Also amalgam is not content to remain inert unless it is properly condensed and locked into the cavity. More time must be taken in cavity preparation than is generally observed. Too often no consideration is given to the physical properties of a material with such a low tensile strength.

It has been my observation that some operators are concerned about correct trituration and are unconcerned about the correct apportionment of mercury and alloy. Others take extreme care to be meticulous in the management of amalgam and yet are unconcerned about mulling the mass in the bare hands. In the matter of the matrix, it has been perplexing that those who are content to use the commercial variety find themselves restoring contact by first removing the band and pressing against the marginal ridge, thus disturbing the entire filling and often causing complete failure.

The Matrix

The amalgam restoration should be homogeneous.[8] In order to build the filling so that each part is similar, meth-

8. Schoonover, I. C., and Souder, Wilmer, Corrosion of Dental Alloys. *J.A.D.A.* 28:1078 (August) 1941.

ods that will allow consistent condensation must be adopted. The matrix for posterior multisurfaced cavities should be firm. If the form yields, firm pressure with the condensing instruments causes the mass to change continually and to become filled with cracks and voids, owing to the landsliding which follows the change of position of the wall of the matrix.

The matrix should be adjustable to the will of the operator, another quality which has received little attention. The smooth, thin band must be independent of any tightening device so that it can approach the proximal, buccal and lingual cavity walls in a rounded relation, allowing enough space so that the amalgam can be overpacked in these regions. In fact, the band should be adjusted so that there is ample space to overpack the proximal gingival angles. The only part of the cavity in which the band is in close marginal adaptation is the area at which the wedge firmly holds it at the middle two-thirds of the gingival floor. Here the convenience form will allow the removal of the excess mercury while the amalgam is condensed.

The matrix should be made from three materials: a 0.002 inch stainless steel band, a wooden triangular shaped wedge and low fusing modeling compound. The band should be cut so that it is wide enough to extend well below the gingival floor, allowing ample material to be adapted by the wedge at and below the cavosurface angle and extending about 5 mm. above the marginal ridge of the adjacent tooth. It should be long enough to cover only a third of the buccal and lingual surfaces of the tooth, allowing enough uncovered enamel for the adhesion of the reinforcing compound.

The band must be contoured in two ways. First, the natural contour of the proximal surface of the tooth is copied with round nosed pliers. Second, the proximal occlusal third of the band should be contoured so that it is as concave as that portion of the tooth is convex. Use of a band which is perfectly straight from the gingival margin to its extremity above the marginal ridge will result in a restoration with a straight wall that meets the adjacent tooth with too high and pointed a contact. Through wear the restoration ultimately will lose its effectiveness. Another fault of such an unanatomic proximal wall, owing to an excessively high interproximal embrasure, is its inability to resist food impaction resulting from excursions lingually or buccally. It is beyond the comprehension of those who are serious in their technic in working with amalgam to understand why the commercial matrix is so generally used, because it is difficult to control and, unless reinforced, it yields under packing pressure. There is little advantage in time of adaptation over the one previously suggested.

Suggestions

Repeatedly in discussing the methods which are necessary to build good amalgam restorations, I have asserted that the employment of the rubber-dam is the first step in building a practical technic. Without this method of keeping a tooth dry, the cavity is of doubtful design and the proper removal of decay cannot be accomplished because the moisture in the field of operation impairs good vision. Consideration of the vital pulp tissue is of utmost importance.

Close study of the roentgenograms is necessary before the method of cavity procedure can be determined. The healthy vital tissue is often protected by secondary dentin, especially in older patients. This is apparent because the pulpal horn has receded and the removal of leathery carious dentin will uncover the sclerotic tissue which, according to the recent investigations[9] by Dorfman, Stephan and

9. Dorfman, Albert; Stephan, R. M., and Muntz, J. A., In Vitro Studies on Sterilization of Carious Dentin. II. Extent of Infection in Carious Lesions. *J.A.D.A.* 30:1901 (December 1) 1943.

Muntz, is almost always sterile. In those cavities in which some caries must be left to eliminate exposure, the use of silver nitrate, as suggested by Zander and Burrill,[10] may lead to pulp recession and the establishment of secondary dentin, especially in young patients. It is a good practice to fill these doubtful cavities temporarily until the establishment of sclerotic dentin has taken place, until the pulp has degenerated into a condition that demands its depletion or until extraction of the tooth is indicated. There is no justification for neglect in these cases. The patient must realize that a pathologic condition is present and that the outcome is questionable. To restore these doubtful cavities permanently with a blind hope that nature will come to the rescue is a haphazard method. Too often, if such teeth are lost, the dentist receives harmful criticism and the patient loses confidence in the dentist. The patient-dentist relation is on a better foundation if operative procedures are preceded by painstaking and critical diagnosis.

It is obvious that base cements, which too often allow insufficient room for the amount of amalgam necessary for strength, are generally placed because of fear of thermal shock or galvanic disturbances. The amount of decay found under cement bases confirms the findings of Hill and Boester[11] that medicated cements depend on solubility for their efficiency. If the cavity wall and floors are painted with a copal varnish, there will be no distressing thermal or galvanic disturbances, provided there is no moisture contamination, the excess mercury is removed and the amalgam is thoroughly condensed. The greatest need for base cements is found in cavities in which extensive decay has left thin walls and has approached in close proximity to the pulp. The latter is a serious problem, and Manley[12] has advised that the use of copper cements may be especially dangerous because of their potency. The use of oxide of zinc and eugenol as suggested by Zander[13] is a good procedure for such cases. In order to fill a tooth at one sitting, it is a good practice to melt oxide of zinc and thymol crystals in the regions that are close to the pulp and then to cover with cement.

10. Zander, H. A., and Burrill, D. Y., The Penetration of Silver Nitrate Solution into Dentin. *J. D. Res.* 22:85 (April) 1943.

11. Hill, T. J., and Boester, K. W., Relative Efficiency of Germicidal Cements. *J.A.D.A.* 21:1565 (September) 1934.

Trituration

In the common method of trituration the glass mortar and pestle are used. It is doubtful that this method can be considered the most uniform because to be efficient this utensil must receive constant care. If the mortar and the pestle are not roughened regularly, more time is required in trituration. If they are not kept clean, there is danger of contamination from old amalgam lodged in the roughened surfaces. Unless care is exercised in controlling the alloy and mercury during the mixing, there is the difficulty of incorporating all of the alloy in the mass and some particles are not covered with mercury. Considering that too much pressure on the pestle should be avoided and that overtrituration will cause shrinkage,[14] trituration by this method should be done with methodical and meticulous care. Clinical observations suggest that amalgam can be triturated completely by the mortar and pestle, if the trituration is followed by thorough mulling in a clean piece of rubber-dam.

Gayler[14] advocates the use of the finger or thumb of a rubber glove as an efficient triturating device. By placing the alloy and mercury in the thumbstall and rubbing the mixture to plasticity, the oper-

12. Manley, E. B., A Preliminary Investigation into the Reaction of the Pulp to Various Filling Materials. *Brit. D. J.* 60:321 (April) 1936.

13. Zander, H. A., The Reaction of Dental Pulps to Silicate Cements. *J.A.D.A.* 33:1933 (October 1) 1946.

14. Gayler, M. L. V., Some Factors Affecting the Setting of a Dental Amalgam. *Brit. D. J.* 56:605 (June 15) 1934.

ator can triturate the amalgam in a shorter time than by using the mortar and pestle. Trituration and mulling are accomplished in one operation and constant amalgamation results. In practice, it is well to have several finger tabs so that each may be washed and dried before being used.

There is some misunderstanding as to the correct consistency of triturated amalgam. Some operators believe that amalgam when triturated should be at a workable consistency for immediate condensation. If amalgam is mixed and apportioned according to the directions of the manufacturers, it is usually in the ratio of about 60 parts mercury and 40 parts alloy by weight. An amalgam of such a proportion, if properly triturated, produces a mass that is rich in mercury. Workable consistency is obtained by the removal of the excess mercury from each small piece before the amalgam is inserted in the cavity. According to Black,[15] excess mercury may be removed without fear of endangering the amalgam. This statement was later confirmed by Ray and Easton,[16] who stated, "The excess mercury so removed does not carry out sufficient amounts of any of the component metals to destroy the balance of the amalgam." Because a mass rich in mercury has a delayed crystallization, the operator has sufficient time to build the filling. The partially triturated mass or one which has insufficient mercury demands the application of more mercury to keep it workable. According to Taylor,[3] such a practice is dangerous because it reduces the compressive strength of the restoration. Tingley[17] suggests a good consistency test:

> Crepitus should not be present in the mix, yet the mixture should not be excessively thin. A good consistency test may be made by dropping the spherical mass onto a flat surface from a height of 6 or 8 inches; after which the mass should be flattened out approximately one-half its diameter.

Mechanical Amalgamation

The advent of the mechanical amalgamator has caused some comment and has stimulated recent research.[18] This research has resulted in a favorable conclusion. The amalgamator affords the operator the opportunity of making this part of the technic more uniform. The clinical advantage is the saving of time in mixing, which allows for more than one mix for large restorations, thus giving the operator the opportunity to use fresh material at all times. According to Ward and and Scott,[19] amalgam more than five minutes old retains more mercury than that which is placed in the cavity immediately after trituration. If the mechanical amalgamator will save time and, after regulation, will produce constant, well triturated amalgam, it is definitely an attractive and helpful addition to management of amalgam. Having used this machine for several years and at the same time having used other methods of trituration, I can agree with Phillips,[18] who stated, "Mechanical amalgamation, owing to the elimination of human variables, consistently gives more uniform mixes than the mortar and pestle, even when an exacting technic is employed."

Caution must be given to those who use this machine and who are impressed by the rapidity of trituration. One is apt to set the timer of this machine at a minimum limit of six or seven seconds; whereas it is far safer to add two or three seconds and be sure of thorough

15. Black, G. V., *Operative Dentistry*, Vol. II. Chicago: Medico-Dental Publishing Company, 1924 (sixth edition).
16. Ray, K. W., and Easton, G. S., Changes in Composition of Amalgam Alloys During Amalgamation and Condensation. *J.A.D.A.* 18:1076 (June) 1931.
17. Tingley, H. E., The Ideal Amalgam Restoration. *J.A.D.A.* 21:1753 (October) 1934.
18. Phillips, R. W., Physical Properties of Amalgam as Influenced by the Mechanical Amalgamator and Pneumatic Condenser. *J.A.D.A.* 31:1308 (October 1) 1944.
19. Ward, M. L., and Scott, E. O., Further Studies of the Effect of Variations in Manipulation on Dimensional Changes and Flow of Amalgams. *J.A.D.A.* 22: 1164 (July) 1935.

trituration. Even then it is good practice to remove the pellet, replace the amalgam in the capsule and mull for an additional few seconds. This is also a good method of keeping the capsule clean. It has been my clinical experience that, though trituration and even overtrituration by this machine have shown no apparent contraction, on many occasions undertrituration has resulted in fillings that corrode and expand. This finding confirms the research of Phillips and others.[20]

Building the Restoration

The triturated amalgam should be rolled into a rope, placed on the bracket and cut into pieces. Each piece is picked up with the carrying instrument and placed in a squeeze cloth, and the excess mercury is removed until the right packing consistency is gained. The proper consistency may be tested by rubbing the amalgam in the cloth; if, on pressure of the amalgam between the thumb and finger, a sphere of mercury appears, the amalgam is not too dry for condensation. A small amount is then placed in the cavity and with small instruments is packed into the angles and retentions. Next a larger instrument, which nearly fills the cavity, is employed, and a rocking or hammer pressure is applied until mercury appears at the surface of the amalgam. This mercury should be removed before it diffuses back into the amalgam. Assuming that this is the gingival wall of a class 2 cavity, too much emphasis cannot be placed on the importance of this part of the filling. The proximal portion is built by adding small pieces of amalgam and condensing them thoroughly into the retentions against the proximal walls, against the matrix band and particularly into the angles which are formed by the band and the proximal margin. It must be borne in mind that a homogeneous restoration is the desired result. The consistency of each piece that is placed in the cavity and condensed should be the same, the pressure of condensation for each layer should be constant and the removal of mercury should be equal throughout. This method should be employed until the cavity is filled and overpacked.

Force of Condensation

The pressure used in condensing amalgam needs explanation. Black[21] stated:

> Pluggers and packing instruments should be as large as can well be used in the cavity, so as to grasp and compress the amalgam as a whole as nearly as possible in the first instances, and then used with all the power of the hand and with just a slight shaking motion, which tends to settle the amalgam into any irregularities or angles of the cavity.

It seems reasonable that the type of force rather than the amount of force is the important consideration. Sweeney,[22] with his use of the pneumatic condenser, has constructed fillings of high compressive and tensile strength and has given us a method in which the force of condensation is constant throughout the filling. It has been my clinical experience that, although the pneumatic condenser is regulated to a minimum blow, removal of excessive mercury is accomplished by the rapidity of action. On the other hand, too forceful use of this instrument will disrupt the already packed amalgam and may disturb the matrix band and fracture margins.

If hand pressure is to be used, a rocking action as suggested by Sweeney[23] and the use of his well designed hand instruments are advocated.

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20. Phillips, R. W.; Boyd, D. A.; Healey, H. J., and Crawford, W. H., Clinical Observations on Amalgam with Known Physical Properties. Final Report. *J.A.D.A.* 32:325 (March 1) 1945.

21. Black, G. V., *op. cit.*, p. 319.

22. Sweeney, J. T., Uncontrolled Variables in Amalgam, with Significant Improvements in the Making of Restorations. *J.A.D.A.* 27:190 (February) 1940.

23. Sweeney, J. T., An Improved Technic for Packing and Condensing Uniform Amalgam Restorations by Hand. *J.A.D.A.* 28:1463 (September) 1941.

Occlusal Overpacking

Occlusal overpacking needs serious consideration. Too often it is expected that pressure applied to an overabundance of amalgam will condense the amalgam uniformly against margins. This is contrary to mechanical law because the cusps and the incline planes will receive more pressure than the depths of the sulci and fissures outlining the cavity. If, on the other hand, the condenser face is inclined to pack against the margin, there are irregularities of the usual occlusal outline that would not permit a flat faced instrument to exert uniform condensation.[24]

For some time I have used rubber faced instruments for condensation. The rubber block is trimmed so that it is wedge shaped, and under pressure it exerts force which is complementary to the anatomic structure of the tooth. When the margins of the cavity are reached by condensation with conventional instruments, a small amount of amalgam, the same consistency as that previously used in the filling, is placed on the occlusal surface. The rubber shaped instrument applied to the pneumatic condenser overpacks this material into the filling until mercury appears on the surface. The mercury excess is wiped off before it diffuses back into the filling. More alloy of the same consistency is added and condensed in the same manner until the cavity is well overpacked. Clinical observations confirm that occlusal surfaces of restorations built in this way are superior. Such restorations may be expected to resist corrosion longer than do those less uniformly packed. Schoonover and Souder[8] wrote: "If corrosion and the formation of corrosion cells are to be prevented in dental practice, . . . condensation should be such that there will be no crevices or cracks, and a homogeneous surface will be obtained."

24. Miller, E. C., Building the Amalgam Restoration. *J. Michigan D. Soc.* 28:113 (June) 1946.

It has been necessary to design instruments that will efficiently condense amalgam into the occlusal extensions.[25] Too often the operator is confronted with the distolingual and occlusal buccal grooves which are continuations of the occlusal surfaces. When construction of a homogeneous restoration is attempted with instruments of conventional design the results are disappointing, because it is impossible to pack one part without disturbing that which is already condensed. "Saddle points" designed to fit the angular cavity and to overpack it have been used with remarkable success.

Concave condensers have been designed so that amalgam may be packed uniformly into gingival cavities that are extensive and have convex floors. Overpacking instruments of the same design will efficiently condense against the convex surface without disturbing the amalgam which fills the cavity.

Carving

Preliminary carving of a class 2 amalgam filling should not be started too soon. It is far more dangerous to carve soft amalgam than amalgam which is partially crystallized. Carving should be performed with care, because sometimes margins are accidentally uncovered as a result of mismanagement of the carving instruments. Also sometimes it is difficult to see all the small details, and the use of binocular loupes to magnify the field of vision is most practical. The occlusal surface is the first to be carved. The blade of the instrument should be sharp and should be laid against the enamel margin as well as the restoration and drawn in the direction of the cavity outline.

The next step is to remove carefully the buccal modeling compound reinforcement. This will uncover the matrix band which partially covers the buccal surface

25. Miller, E. C., Amalgam—Inconsistencies in Its Use in Restorations. *J.A.D.A.* 33:349 (March 1) 1946.

of the tooth. A thumb or finger is placed against this banding material to hold it firmly against the buccal surface, and the lingual compound and wedge are removed. The banding material now serves as a guide in carving the marginal ridge and the occlusal embrasure. The buccal and lingual portions of the band are straightened out, uncovering the proximal margins of the restoration. It will be noticed that these margins as well as the proximal gingival angles are overpacked with amalgam. Carving is again accomplished by moving the blade in the direction of the cavity outline.

It has been suggested that little attention should be given to the proximal surface.[26] Too often a broad-flat contact point is the result of attempted instrumentation in carving proximal contours. The matrix band which still remains in place can be put to further use, provided the filling has set sufficiently. It may be grasped with pliers and pulled buccally and lingually in the direction of the natural proximal contour, thus rounding the contact area to its normal anatomic structure.

It has been my experience that considerable attention should be given to the removal of possible debris at the gingival margins. The passage of a small pledget of cotton through the embrasure generally removes particles of amalgam which might become embedded in the soft tissue and cause irritation. Also this excess amalgam may adhere to the unset amalgam wall.

Although careless gingival carving can roughen the proximal amalgam wall, it has been my experience that it is a difficult and painful procedure to file off at a later appointment any overhang which is allowed to become thoroughly set. Especially is this the case in lower molars where the embrasures are narrow. It is good practice to take roentgenograms of the filling on completion and thus determine whether or not overhang is present. The overhanging amalgam should be removed carefully and the region from which it is removed should be made smooth with thin, narrow linen strips. Generally this is not a problem if a wedge is carefully designed and inserted.

26. Sweeney, J. T., Amalgam Manipulation: Manual vs. Mechanical Aids. Part II. Comparison of Clinical Applications. *J.A.D.A.* 27:1940 (December) 1940.

Establishing Occlusal Relation

Attention must be directed carefully to the relation of the opposing teeth to the new restorations. In order to save chair time, this important step is sometimes accomplished hurriedly and before the filling has set to a degree which will offer any resistance to occlusal force without damage to the marginal ridge and other surface anatomic structures.

Before the tooth is restored, it is good practice to gain some estimation of the intercuspal relation by having the patient bite on carbon paper. Without this knowledge the operator is often surprised to find that the opposing tooth or teeth demand rather deep sulci and planes of unusual inclinations.

The average class 2 filling should be allowed to set ten to fifteen minutes, according to the rapidity of crystallization of the particular alloy, before bite relation is established. Fillings that are unusually large and those which particularly approach a crown must be left until they have definitely set before bite relation is established. In such instances the patient is told to retire to the waiting room or to another operating room for about a half hour with implicit instructions to avoid any biting stress. It is then safe to bite, and readjustment of the amalgam surface can be made with stones and dull burs.

Polishing

We now have the knowledge and the instruments to polish easily and cor-

rectly the accessible surfaces of amalgam. Stones, burs and disks, pointed and wheel brushes and abrasive pastes are items which should be acquired and used. With the employment of a separator, the contact areas may be polished lightly with cuttlefish disks without fear of diminishing adjacent contact. I agree with Green, Shellman and Simon[27] that broad projecting contact points are created by the use of disks in final polishing. The Perry and Ferrier separators, which work with lingual and buccal turnbuckles, are cumbersome in both adjustment and cervical adaptation. Surely the dental profession should suggest a mechanical device that is as efficient but regulated on the buccal side only.

27. Green, R. O.; Shellman, J. F., and Simon, W. J., Manipulation of Amalgam. *J.A.D.A.* 30:1168 (August 1) 1943.

Conclusions

1. The habitual use of the rubber-dam to maintain a dry field is a decided advantage in the management of amalgam.

2. More consideration should be given to a wider selection of instruments to cope with extensive gingival restorations, occlusal extensions and occlusal overpacking.

3. A reasonable amount of success can be expected if the value of amalgam is appreciated and its management is understood and meticulously executed.—*13859 Euclid Avenue.*

THERAPEUTIC MANAGEMENT OF THE HYSTERICAL PATIENT

Louis W. Schultz, M.D., D.D.S., Chicago

THE hysterical patient met in daily practice presents a problem requiring careful thought and handling.

Dorland[1] defined hysteria as follows:

A psychoneurosis, the symptoms of which are based on conversion[2] and which is characterized by lack of control over acts and emotions, by morbid self-consciousness, by anxiety, by exaggeration of the effect of sensory impressions, and by simulation of various disorders. Symptoms of the disease are hyperesthesia; pain and tenderness in the region of the ovaries, spine, and head; anesthesia and other sensory disturbances; choking sensations; dimness of vision; paralysis; tonic spasms; convulsions; retention of urine; vasomotor disturbances; fever; hallucinations, and catalepsy.

Babinski[3] laid down the dictum that no symptom can be hysterical which cannot be produced by suggestion and removed by persuasion.

Janet[4] stated that hysteria is a form of mental depression characterized by the retraction of the field of personal consciousness and by the tendency to the dissociation and the emancipation of systems of ideas and of functions which

This paper has been authorized for publication by the Council on Dental Therapeutics. The opinions expressed are those of the author and do not necessarily reflect the opinion of the Council.

1. Dorland, W. A., *The American Illustrated Medical Dictionary.* Philadelphia: W. B. Saunders Company, 1944 (twentieth edition), p. 710.

2. Conversion is "the process by which emotions become transferred into physical manifestations."[1]

4. Janet, Pierre, *Les Névroses.* Paris: Ernest Flammarin, 1909.

3. Babinski, J., My Conception of Hysteria and Hypnotism (Pithiatism), *Alienist & Neurol.*, St. Louis, 29:1, 1908.

by their synthesis constitute the personality. From the standpoint of the nature of hysteria his theory is enlightening, tending to show that the fundamental trouble is a loose organization, a faulty synthesis of the personality.

According to White[5] the most important theory of hysteria today is that of Freud.[6] Freud expressed the opinion that hysteria arises from a psychic conflict of a sexual nature, a conflict between desire represented by buried complexes and attitudes of mind resulting from education.

According to Henderson and Gillespie[7] hysteria is an overworked term; it is too all-inclusive of bodily disturbances, physical action, mental mechanisms and symptoms arising from peculiar complexes such as the Oedipus complex. They stated the belief that the hysterical personality as usually described might well have another name, such as hysteronic. Persons with hysterical personalities are highly egocentric and immature in both conversation and appearance. They are conspicuous for the demands they make on those around them. They dramatize their emotions so as to give the appearance of suffering. Their actions are exaggerated, and their feelings seem to lack depth and realism.

Recommendations for Management

It is only natural that patients with hysterical tendencies should be managed in a little different fashion from that used for other persons who are more stable. It may be the part of wisdom for a dentist to act as quickly as possible when a patient enters the office for a definite purpose that can be settled in a few moments, and then with another patient it may be best merely to discuss the work to be done, give the patient a clearer idea of what is involved and what is to be expected of him and dismiss him for a later appointment.

The choice between these diametrically opposed methods of handling the patient must be determined by the introductory remarks obtained from the physician who refers the patient and from contact with relatives or on the basis of the first few remarks made by the patient and the dentist's ability to evaluate the situation. In case of an emergency, progress must not be delayed by a whim of the patient.

A few moments of conversation are invaluable in allaying fear or subduing the hysterical patient in most instances. This is just as true for the very young baby as for the aged person. This period of contact with the patient is for no other purpose than that of establishing confidence.

A few moments spent completely ignoring the young patient and talking to his parents or relatives may help. A few words spoken in the mother tongue of the patient may put him at ease. The nurse in the office can help to relieve tension by engaging the patient in conversation before the dentist sees him.

If the dentist is soft-spoken, gentle and humorous with caution and spends a few moments with the patient discussing the problem and trying to make him comfortable, he has done much to give the patient a feeling of confidence. Being gruff and curt and paying no attention to the patient's feelings will only cause aggravation. If the patient can sense that the dentist is busy, he will gain confidence.

Sometimes, a conversation explaining details and results, perhaps in illustration in some form (photographs, drawings or charts), may clarify the situation so that an entirely different attitude will be

5. White, W. A., *Mental Mechanisms.* Nervous and Mental Disease Monograph Series, No. 8. New York: Journal of Nervous and Mental Disease Publishing Company, 1911.

6. Freud, Sigmund, *Selected Papers on Hysteria and Other Psychoneuroses.* Nervous and Mental Disease Monograph Series, No. 4. New York: Journal of Nervous and Mental Disease Publishing Company, 1909.

7. Henderson, D. K., and Gillespie, R. D., *Text-Book of Psychiatry for Students and Practitioners.* New York: Oxford University Press, 1944 (sixth edition), chap. 7.

taken by the patient. Some patients know that they are hysterical and want to control their emotions, and they will request that the dentist talk to them constantly—no matter what the subject, just so that he talks. Some patients want to know every move that a dentist makes. Others want a radio program. Some dentists have moving pictures to show patients.

The confidence that a person must have in a dentist often is instilled by the dentist or the physician who refers the patient. A few good words from some other person whom the patient knows will often do more than any other thing to instill confidence.

Medication

All the foregoing methods of handling the hysterical patient and many more similar methods will control some persons effectively. Other persons, however, are not so amenable to suggestion and must be controlled by drugs. The medication usually resorted to is one of the short-acting barbiturates such as pentobarbital sodium. The capsule containing the barbiturate can be punctured several times with a sharp instrument to hasten the effect. Bromides also can be used in the office twenty to thirty minutes before the appointed hour. Patients in hospitals can be treated in a similar manner with larger doses of the drug, or the opiates can be used to good advantage.

Naturally a person confined to bed or in an institution may be narcotized more effectively than an ambulatory patient because the dangers of transportation while the patient is still under the effect of the drug will not exist. Therefore morphine and atropine, morphine and scopolamine, or codeine in adequate dosage can be given to obliterate all memory of an ordeal the patient does not want to remember.

Cooperation of Patient

The emotions of the dentist must always be under control. One does not have to be hysterical to be uncomfortable if the dentist shows signs of anxiety, fear or lack of confidence. The dentist should appear to be complete master of the situation at all times. The patient should be allowed to carry all the responsibility possible so that he will be more cautious and responsive to instructions. The patient should be corrected firmly when he does not carry out the program preoperatively and postoperatively as prescribed. Probable conditions, reactions and results, whether they are favorable or unfavorable, should in some instances be told to the patient before any operative procedure is undertaken. When properly handled, this discussion is of decided benefit from every standpoint, whether it be the instillation of confidence, prevention of legal entanglements or satisfaction on the part of the patient and the dentist that all phases have been discussed in complete detail. The result is peace of mind for all concerned no matter what the outcome of the operation may be.—*25 East Washington Street.*

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LON W. MORREY, D.D.S., *Editor*

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EDITORIALS

STATE WORKSHOPS ON DENTAL HEALTH

THE dental health workshops created by the Council on Dental Health of the American Dental Association constitute an effective mechanism by which state and component dental societies can evaluate community dental requirements. A thorough understanding of dental needs is necessary before dental societies can develop plans to meet those needs. Certainly, effective programs must be developed in every community if improvement in the dental health of the American people, and particularly in the dental health of children, is to be kept on a par with the improvement that is taking place in general health.

Children born in 1946 have a 60 per cent better chance of survival than did children born less than a generation ago. Between 1930 and 1946, the death rate of children between 1 and 14 years of age in the United States dropped from 270 to 107 per 100,000, the lowest rate on record.

Although fewer children suffer each year from contagious diseases, pneumonia, tuberculosis and accidents, no appreciable improvement has occurred in their dental health. It is estimated that three years from now the 3,440,000 children born in 1946 will average 0.4 cavities, at 5 years of age they will average 3 cavities and at 16 years of age they will require 7 fillings and 2 extractions. The results of insufficient dental care will be reflected later in periodontal disease, additional cavities and edentulous mouths. It has been estimated that 40 per cent of those reaching 40 years of age will require dentures.

By encouraging the establishment of state dental health workshops, the Council on Dental Health is aiding officers of dental societies and members of councils on dental health to evaluate state and local dental health needs and facilities and to study the problems involved in designing dental health programs that will fit the needs and resources of their particular state and community.

Highly successful workshops have been held in Ohio, New York, New Jersey, Louisiana and Georgia. It is hoped that workshops will be extended to every state, that they will be repeated annually and that eventually they will be conducted locally.

The scientific means that have been used in improving the general health of children must and will be used in improving their dental health. Soundly planned dental programs, developed on state and community levels, constitute the most effective method of bringing about early improvement. Furthermore, carefully planned community programs based on local needs and facilities will be society's greatest protection against unsound and unworkable schemes that might be forced on the public by uninformed legislators.

MEMBERSHIP CAMPAIGN FOR FEDERATION DENTAIRE INTERNATIONALE

THE *Fédération Dentaire Internationale,* dormant since 1939 because of the war, has resumed its activities. The American Dental Association, active in the affairs of the *Fédération* since its inception in 1900, will no doubt continue to play an influential role in its future development.

One of the first and most important activities which must be undertaken by the *Fédération* is that of rebuilding membership. The American Dental Association's representatives in the *Fédération*[1] have announced recently that a membership campaign soon will be made among dentists in this country. The campaign will be undertaken by a special committee of thirteen members, one from each trustee district. Membership from the United States in the *Fédération* is limited to 1,500.

The main purposes of the *Fédération Dentaire Internationale* are to stimulate better international dental relations and to develop an interchange of scientific knowledge among dentists throughout the world. One way of accomplishing these purposes is to resume the International Congresses which were previously held every five years.

After the cancellation of the Congress planned for London in 1941, the American Dental Association invited the *Fédération* to hold an International Congress in conjunction with the Association's meeting in Boston in August. In all probability, a full meeting of the International Congress will be held in London in 1952.

Science recognizes no national boundaries. International channels for the interchange of knowledge that will alleviate pain and eliminate disease must be expanded. The reactivation of the *Fédération Dentaire Internationale* and the reestablishment of International Congresses will enable dentistry to transcend national boundaries and to expand those channels. American dentists who become active members of the *Fédération* will have the privilege of contributing to the progress of international dental affairs and to some extent to the advancement of world peace.

1. See page 843 of this issue.

DENTAL EDUCATION

ASSOCIATION OF DENTAL SCHOOLS WILL HOLD MEETING JUNE 23-25

The American Association of Dental Schools will hold its twenty-fourth annual meeting June 23-25 at the Drake Hotel in Chicago.

The principal speakers on the program will be Paul Eklopsteg, director of the Technological Institute, Northwestern University, on the topic "Government Support of Research and Its Implications," and George D. Stoddard, president of the University of Illinois, who will talk at the annual dinner June 24.

An administrative section will be held under the direction of Willard C. Fleming, dean, College of Dentistry, University of California, and chairman of the association. One part will be devoted to the development of programs for dental internships, residencies and postgraduate training in the Army, Navy, Public Health Service and Veterans Administration. Representatives of the four services will present reports, to be followed by a discussion period.

Another part of the section will deal with the dental teacher man-power problem, based on the results of a survey on teaching personnel made through the deans of schools of dentistry in the United States.

L. R. Main, dean, School of Dentistry, St. Louis University, will conduct a section on the teaching of roentgenography. Donald A. Wallace, secretary of the Council on Dental Therapeutics of the American Dental Association, will hold a section on dental therapeutics and therapeutic research.

Conference sessions will be held on pedodontics, clinic administration, partial denture prosthesis, oral surgery, periodontia, crown and bridge prosthesis, graduate study, full denture prosthesis, operative dentistry and oral diagnosis.

A symposium on the selection of students will be held in three sections. Wendell L. Wylie, University of California, will conduct the first section on "Measurement of the Intangible Attributes," and Clarence Peebles, Northwestern University, will lead the discussion.

Ray V. Smith, State University of Iowa, will speak on "Value of Preprofessional Record in Student Selection," and Shailer A. Peterson, director of aptitude testing, Council on Dental Education, American Dental Association, will report on the aptitude testing program of the Council on Dental Education.

APTITUDE TESTING CONFERENCE WILL BE CONDUCTED JUNE 26

The Council of Dental Education of the American Dental Association, and the Committee on Aptitude Testing of the Council, will hold a one day conference on aptitude testing June 26, immediately after the annual meeting of the American Association of Dental Schools in Chicago.

The Council is holding the conference to acquaint anyone interested in aptitude testing with the machinery developed for conducting the project. Demonstrations will be given of all the aspects of scoring and recording the aptitude tests.

Open discussion under panel leadership is also planned for the conference. The subjects under discussion will include the immediate aims and long-term objectives of the program; methods of describing performance on tests; use of charts, tables, graphs and profiles; interpretation of test results and significance of national norms; use of predental rec-

ords, test data and personnel file data by admission officers; criteria that should provide a measure of success in dental school; relative merits of the various aptitude tests, predental records and other data for predicting success in dental school, and reliability of test scores for predicting the success of an individual student.

N. B. WILLIAMS RECEIVES AWARD FOR RESEARCH ON LACTOBACILLI

Ned Blanchard Williams, instructor in bacteriology at the Walter G. Zoller Memorial Dental Clinic, University of Chicago, has been awarded the Howard Taylor Ricketts prize for outstanding research, R. Wendell Harrison, dean, division of biological sciences, University of Chicago, has announced.

Dr. Williams received the award for research on the immunologic reactions of lactobacilli obtained from the mouths of patients with dental caries. He has distinguished groups among the lactobacilli and clarified some previous uncertain relationships among these organisms, Dr. Harrison said.

32 CANDIDATES PASS SECOND PART OF NATIONAL BOARD TESTS

Thirty-two candidates have successfully passed Part II of the examinations given by the National Board of Dental Examiners, according to an announcement by Gordon L. Teall, secretary of the National Board. The names and schools of the candidates follow.

College of Dentistry, Howard University: Richard Otagaki; *Kansas City-Western Dental College, University of Kansas City:* Warren G. Kennard; *School of Dentistry, Meharry Medical College:* Roderick H. Adams, James M. Morris and Alexander M. Pratt; *College of Dentistry, New York University:* Henry Littman and Julian Ehrlich; *Dental School, Northwestern University:* John A. Bancroft, James L. Monahan, Grant A. Vartebedian and Cyril G. Watson; *School of Dentistry, Temple University:* Charles W. Miller; *Tufts College Dental School:* Everard F. Jones, Stanley H. Short, William E. Kidder, Clarence E. McIntire, S. Patric Scavotto, Eugene E. Dalrymple and Rosemary Weil; *School of Dentistry, University of Michigan:* O. Lee Ricker; *College of Dentistry, University of Nebraska:* Carlyle G. Reinmuth, Eugene S. Merchant, Alexander Ostroff, Robert Nagel, Ray H. Reynolds, Charles E. Gleason, George O. Bosma, F. Gene Dixon, Melvin L. Hermsmeyer, Vern A. Wolfley and Howard F. Aarstad, and *School of Dentistry, University of Pennsylvania:* Dennis W. Berger.

BASIL G. BIBBY TO HEAD EASTMAN DENTAL DISPENSARY

Basil G. Bibby, dean of Tufts College Dental School, has been appointed director of the Eastman Dental Dispensary in Rochester, N. Y. Dr. Bibby wound up his duties at Tufts College and took over his new post June 1.

The appointment was announced by Harper Sibley, president of the dental dispensary. Dr. Bibby was an assistant professor at the School of Medicine and Dentistry, University of Rochester, from 1936 to 1940 when he resigned to go to Tufts College. At Tufts Dr. Bibby, in addition to being dean of the Dental School, was professor of bacteriology in the medical school.

He succeeds Harvey J. Burkhart, who died last September 22. Dr. Burkhart, first director of the dispensary, had established it thirty-two years ago. Mr. Benjamin L. Wunder, acting director of the dispensary since Dr. Burkhart's death, will continue in his former post of business manager.

Dr. Bibby was born in Waipawa, New Zealand, and was graduated from Otago University in 1927. He was an instructor in operative dentistry at Otago University and was engaged in general practice before coming to the University of Rochester in 1930 as a Rockefeller fellow in dentistry.

RESEARCH ASSISTANTSHIP AVAILABLE AT CALIFORNIA

The College of Dentistry, University of California, has a full time research assistantship in dentistry available, according to an announcement by Willard C. Fleming, dean, College of Dentistry.

Appointment to the post is designed to assist in the preparation for a career in dental research and teaching. The work will be primarily in the field of histology and dental medicine.

The appointment is effective August 1. Application forms may be obtained by writing the Dean, College of Dentistry, University of California, San Francisco 22. Application forms should be sent to the college by July and should be accompanied by a transcript of the applicant's predental and dental scholastic record.

24 DENTAL HYGIENISTS RECEIVE CERTIFICATES AT COLUMBIA

Twenty-four dental hygienists were graduated from the School of Dental and Oral Surgery, Columbia University, at a convocation held May 26. All twenty-four received certificates in dental hygiene.

ILLINOIS GIVES DENTAL PROGRAM AS NEW PRESIDENT INAUGURATED

The College of Dentistry, University of Illinois, presented a symposium recently in celebration of the inauguration of George D. Stoddard as new president of the University of Illinois.

Speakers at the symposium included C. J. Van Slyke, medical director, U. S. Public Health Service, and chief, research grants division, National Institute of Health, and Harlan H. Horner, secretary, Council on Dental Education of the American Dental Association. Allan G. Brodie, dean, College of Dentistry, University of Illinois, presided.

NORTHWESTERN WILL HOLD HOMECOMING JUNE 16-18

The annual homecoming of the Dental School, Northwestern University, will be held June 16-18, according to an announcement by the school.

The alumni scientific session will be held June 16-17 and will present a program on "Instruction With Elastic Impression Materials" and "Practical Roentgenography."

Speakers will include Paul S. Rhoads, Evanston, Ill., on "Cardiac Disease—How To Avoid It and How To Live With It"; John R. Thompson, Chicago, on "Occlusion," and G. R. Lundquist, Chicago.

All members of the Chicago Dental Society are invited to attend.

ANNUAL REUNION HELD BY WESTERN RESERVE ALUMNI

The Alumni Association of the School of Dentistry, Western Reserve University, held its fifty-fifth annual Alumni Day and Homecoming Reunion June 9.

The program included a scientific session and a social evening.

DENTAL SOCIETIES

DENVER PAST PRESIDENTS RECEIVE KEYS AT MEETING

Thirty-five living past presidents of the Denver Dental Association were presented with keys at the annual meeting of the association. The presidents who received the keys were as follows:

W. T. Chambers, William P. Smedley, Henry F. Hoffman, Ira C. Brownlie, John Steele, Mallory Catlett, Ross A. Adams, V. Clyde Smedley, Lynn D. Mathews, Arthur G. Kelly, Max Giesecke, Louis Adelman, Arthur C. Hamm, William O. Brubaker, C. J. Hamilton, E. E. Bailey, I. R. Bertram, Edward C. Carter, Harry B. Talhelm, Oliver H. Devitt,

Fred A. Peterson, Samuel F. Brannon, Harold Watson, Ralph R. Gibson, Elmer F. Warren, R. Homan Taylor, L. Glenn Cody, Jess M. Peabody, Paul A. Barker, Ralph L. Christy, Ernest G. Netherton, Robert H. McBride, Miles R. Markley, L. Wood Swaggart, William Roy Humphrey and George H. Jackson.

LATEST DENTAL SOCIETY ACTIVITIES AND MEETINGS

California.—The newly elected officers of the California State Dental Association are H. Woodrow Coale, Stockton, president; Harry B. Hambly, San Francisco, president-elect; Clyde C. Sheppard, Berkeley, vice-president; Lloyd E. Linehan, San Francisco, secretary; Howard M. Johnston, Berkeley, treasurer, and Loren B. Taber, San Francisco, editor.

The California State Board of Dental Examiners will meet June 16 in Los Angeles, according to K. I. Nesbitt, San Francisco, secretary.

Kentucky.—New officers of the Kentucky State Dental Association elected at the recent annual meeting were P. H. Williams, Ashland, president; Julian Dismukes, Paducah, president-elect; E. W. Potter, Russell, first vice-president; W. W. Kemper, Louisville, second vice-president; E. V. Yocum, Ashland, third vice-president, and J. L. Walker, Louisville, secretary-treasurer.

Massachusetts.—The Massachusetts Board of Dental Examiners will hold examinations for dentists and dental hygienists July 7-9, according to an announcement by John C. Wilson, Boston, secretary of the Board.

Applications and credentials must be filed with the Board at least two weeks before the dates of the examination. For further information write Dr. Wilson, 413N State House, Boston.

New Jersey.—The newly elected officers of the New Jersey State Dental Society are M. J. Lentz, Passaic, president; Charles P. Crowe, East Orange, president-elect; J. Ward Weaver, Pleasantville, vice-president; John G. Carr, Camden, secretary, and Stephen M. Lyons, Summit, treasurer.

The New Jersey State Board of Dental Examiners met June 9-13, according to an announcement by W. A. Wilson, Trenton, secretary.

Oklahoma.—At the recent meeting of the Oklahoma State Dental Society, the name of the organization was changed to Oklahoma State Dental Association. The association also decided to hire a full time executive secretary to take charge of association affairs starting July 1. The secretary will maintain a full time office in Oklahoma City.

Officers elected at the meeting were Max Armstrong, Tulsa, president; David W. Matteson, Oklahoma City, president-elect; Fred C. Seids, Perry, vice-president; Eugene W. Wise, Tulsa, secretary and editor, and W. C. Travis, Chickasha, treasurer.

South Carolina.—New officers of the South Carolina State Dental Association elected at the recent annual meeting are Joseph G. Jenkins, Greenwood, president; I. P. Carr, Florence, president-elect; A. J. Beadenbough, Columbia, vice-president; J. R. Owings, Greenville, secretary-treasurer, and J. M. Christian, Greenville, editor and business manager.

Texas.—The newly elected officers of the Texas State Dental Society are Charles E. Butler, San Antonio, president; A. J. Wimberly, Sweetwater, president-elect; A. J. Odom, Beaumont, vice-president for the southeast division; D. N. Cushing, San Antonio, vice-president for the southwest division; Horace R. Beachum, Dallas, vice-president for the northeast division; Dr. Wimberly, vice-president for the northwest division, and Willard Ogle, secretary-treasurer and editor.

Total attendance at the meeting was 1,579, with 987 dentists. The house of delegates of the Texas State Dental Society adopted a revised constitution and bylaws and increased the state dues to $20 a year.

Boston Council on Dental Health Meets

Guests at a luncheon held recently in connection with a meeting of the Council on Dental Health of the Metropolitan District Dental Society, Boston, are, from left to right, standing, Philip J. Sullivan, chairman, Council on Dental Health, Metropolitan District Society; Basil G. Bibby, dean, Tufts College Dental School; Howard M. Marjerison, associate director, Forsyth Dental Infirmary for Children; Frank C. Cady, senior surgeon, U.S. Public Health Service, and Maxwell Sherman, chairman, Council on Dental Health, Massachusetts Dental Society. Seated, from left to right, are James H. Maycock, president, Massachusetts Dental Society; Harold H. Hookway, past president, Massachusetts Dental Society; Arthur P. Connelly, chairman, Metropolitan District Society, and Harold Hillenbrand, general secretary, American Dental Association

LOUISIANA APPROVES PLANS OF DENTAL HEALTH WORKSHOP

The Board of Directors of the Louisiana State Dental Society has adopted all sixty-seven of the recommendations made by the three day Workshop in Dental Health Planning, held recently by the Council on Dental Health of the State Dental Society under the sponsorship of the Council on Dental Health of the American Dental Association.

The recommendations are divided into three major objectives. The first is to increase public appreciation of, and demand for, dental services. Emphasis is placed on the importance of councils on dental health assuming leadership in all types of community dental health programs, making available adequate and properly graded dental health education material to teachers and expansion of personnel by the dental health section of the State Board of Health.

The second broad objective is to increase dental personnel and to improve their training. The importance of vocational guidance to dental training is recognized, and a modified Alabama plan establishing state scholarships for dental students is included. Other points are the exploration of the possibilities of federal aid, expansion of present dental schools, standardized training for ancillary aids, study clubs in dental procedure for children, a continuous educational program for dentists and the need for dentists trained in pedodontics to conduct short refresher courses for members of the profession.

The third objective is to develop and assist programs designed to bring dental services to more people. To achieve this objective, it was recommended that school authorities be made an integral part of dental health planning by making

them aware of the need for dental equipment in schools, by referral to the family dentist without absence demerits and by follow-up records and advice.

The recommendations also included the setting up of eligibility standards by the community for free dental care and the provision of care for indigents by dentists who would render service on an honorarium basis; the studying of the prepayment principle with a view toward establishing such a plan for dental care for young children, and the establishment of demonstration programs for testing the effectiveness of possible caries preventive measures.

LEGISLATION

DENTAL RESEARCH BILL SENT TO FULL COMMITTEE HEARINGS

The dental research bill, S. 176, has been approved by the Senate Subcommittee on Labor and Public Welfare and has been referred to the full committee.

The bill would authorize the appropriation of $2,000,000 for the erection and equipment of a national institute of dental research and $730,000 annually for dental research. The research would be conducted under the direction of the Surgeon General of the U. S. Public Health Service at the National Institute of Dental Research, to be created as part of the National Institute of Health in Bethesda, Md.

PLANS FOR MEDICAL SERVICES ARE DISCUSSED IN SENATE COMMITTEE

The Senate Committee on Armed Services has held several hearings on plans for medical service for the armed forces in the course of discussions on S. 758, a bill for a national defense establishment incorporating within it departments of the Army, Navy and Air Force.

Gen. Dwight D. Eisenhower, in answer to a suggestion by Senator Chan Gurney, South Dakota, chairman of the committee, that one surgeon general be appointed to serve the medical and dental needs of the Army, Navy, Air Force and civilian population, said that an over-all command always turned out to be essential.

"It finally develops to the point where you can get such an organization as the medical service answering to one man. Because the medical service is going to have just as big a responsibility to keep Chicago and Gary, Ind., healthy and operating, as they are to keep the soldiers on the front line, or the sailors in the ships," General Eisenhower said.

Maj. Gen. Norman T. Kirk, shortly before his retirement as Surgeon General of the Army, presented his personal and unofficial plan on medical service to the committee. General Kirk suggested the formation of an Armed Force Medical Service from the medical services of the Army and Navy, under the direction of a director general appointed from the senior medical officers of the regular Army Medical Corps or Navy Medical Corps. The director would be responsible to the secretary of national defense.

The director would command and administer all troops and installations not attached to major forces. Each of the three major forces would have a surgeon general appointed from the medical corps of the Armed Force Medical Service. The surgeon generals of the Army, Navy and Air Force would be responsible for specialized technical and tactical training.

Rear Admiral Clifford A. Swanson, Surgeon General of the Navy, attended a committee hearing with a series of objections to General Kirk's proposal. General Swanson said that the Kirk plan would result in the generation of dissension among medical personnel and the destruction of most of the authority of

the office of surgeon general.

Other objections presented by General Swanson included emphasis on the disparity between authority and facilities to be given to the Army medical personnel and those to be available to the Navy and Air Force personnel.

BILL ENTERED TO INCREASE DEDUCTION FOR DENTAL COSTS

James H. Morrison of Louisiana has introduced into the House of Representatives a bill to increase the amount of income tax deduction allowed for dental and medical expenses.

The bill, H. R. 2526, would amend the Internal Revenue Code by striking out the clause permitting deduction for medical and dental expenses only to the extent that the expenses exceed 5 per cent of the adjusted gross income.

ARMY AND NAVY

ARMY DENTAL CORPS OFFICERS TO COME FROM THREE SOURCES

The appointment of qualified personnel to commissioned grades in the Dental and Medical Corps of the Regular Army will be made from three sources, according to a recent War Department circular.

The age limits for appointment to either corps on the dates of appointment are 21 to 32 years of age. The three sources of appointments are as follows:

Group 1: Persons who have completed a one year internship in an Army hospital, have been graduated from an approved dental or medical school and have been recommended for appointment in the Regular Army by the intern board of the hospital in which the candidate served the internship.

Group 2: Dental and medical officers of the Officers' Reserve Corps, National Guard and Army of the United States who have performed at least one year of duty after June 30, 1947, and who have been recommended by their commanding officers.

Group 3: Persons in civilian life who have successfully passed a competitive professional examination given by the Surgeon General. The written portion of the examination may be waived if the applicant has passed the tests given by the National Board of Dental Examiners, or Medical Examiners.

NAVY TO PROCURE DENTISTS FOR REGULAR AND RESERVE OFFICERS

The U. S. Navy Department has authorized the Office of Naval Officer Procurement to secure dentists from civilian life to serve as officers in the Dental Corps, U. S. Navy and U. S. Naval Reserve.

The qualifications for appointment to the grade of assistant dental surgeon with the rank of lieutenant, junior grade, in the regular Navy are graduation from an accredited dental school and licensure to practice, except in the case of recent graduates who have not had time to obtain licenses. A year of internship and two or three years of active practice are desirable but not essential.

Applicants must be citizens of the United States between 21 and 32 years of age and must be physically qualified in accordance with the standards set for naval officers. The applicants must take the professional examinations and must be selected for appointment by the Dental Corps naval examining board.

For appointment to the U. S. Naval Reserve with the rank of lieutenant, junior grade, the candidates must meet the same requirements except for the professional examination, which is waived, and must be between the ages of 21 and 38.

Interested applicants should contact their nearest Office of Naval Officer Procurement.

NAVAL RESERVE DENTISTS TRAINED AT GREAT LAKES

Twenty-five dentists from various cities in the Ninth Naval District recently completed a two week tour of active duty at the Naval Training Center, Great Lakes, Ill., in connection with the Naval Reserve Training program for Dental Corps officers.

A series of two week training periods will be continued throughout the summer for Naval Reserve dental officers. Capt. C. W. Schantz, Naval Training Center dental officer, is in charge of supervising indoctrination for the course. Clinical lectures are given by outstanding civilian dentists, and a portion of the course will be devoted to actual dental practice in one of the clinics at the Naval Training Center.

DENTISTRY ABROAD

DENTIST NAMED MINISTER IN AUSTRALIAN CABINET

Cyril Chambers, former dental officer with the Australian Army, has been appointed Minister for the Army in the government cabinet of the eighteenth Australian Parliament.

Dr. Chambers was elected a member of Parliament in 1943 upon his return from service in New Guinea. He is a former mayor of Henley and Grange, South Australia, and former president of the Labour Party of South Australia.

AUSTRALIAN DENTAL CONGRESS SEEKS SCIENTIFIC MATERIAL

The Australian Dental Society has requested papers, films and clinics from the United States for use in the eleventh annual Australian Dental Congress, to be held May 24-29, 1948, in Perth, Western Australia.

This will be the first Australian Congress since 1939. T. Flintoff, secretary for the Congress, has invited members of the American Dental Association to attend the Congress and has asked for contributions of films and scientific material. All such material will be returned.

The clinical program for the Congress will include sections in pathology, bacteriology, oral surgery, conservative dental surgery, prosthetics, preventive and children's dentistry, orthodontics and dental services.

Anyone willing to lend material to the Congress should write Dr. Flintoff, 220 St. George's Terrace, Perth, Western Australia.

DENTIST APPOINTED PROFESSOR AT NETHERLANDS UNIVERSITY

Martin Hut, president of the Netherlands Dental Society, a scientific organization, has been appointed a professor on the medical faculty at the University of Groningen, Netherlands. This is the first time a dentist has been made a full professor at the University.

Dr. Hut will teach dentistry to the medical students at the University. A bill calling for the reorganization of dental education in the Netherlands is still pending before the Netherlands Congress.

NEW DENTAL JOURNAL IS PUBLISHED IN SWITZERLAND

A new dental journal, *Paradentologie,* is being published in Geneva, Switzerland, under the auspices of the ARPA International (Association for Research in Periodontal Pathology).

Charles Guignard, 4 Place Neuve, Geneva, Switzerland, is in charge of administration for the new journal. The journal will be supported in its first year by the Swiss Dental Society and will be distributed without charge to all recipients of the *Swiss Dental Journal.*

The first issue of the magazine contains articles in French, English and German.

PUBLIC HEALTH

OPEN HOUSE ANNOUNCES RICHMOND DENTAL SURVEY

An open house was held recently in Richmond, Ind., to announce formally the dental demonstration survey now being conducted among school children in Richmond under the joint sponsorship of the Indiana State Dental Association, the Indiana State Board of Health, the U. S. Public Health Service and the Richmond schools.

Speakers on the program included J. B. Carr, chairman of the advisory health council, Indiana State Dental Association; Mr. John R. Britten, mayor of Richmond; Paul E. Williams, president, Richmond Dental Association; George E. Guse, president, Indiana State Dental Association; John W. Knutson, chief dental surgeon, U. S. Public Health Service; L. E. Burney, state health commissioner, Indiana State Board of Health; Maynard K. Hine, dean, School of Dentistry, Indiana University, and Allen O. Gruebbel, secretary, Council on Dental Health, American Dental Association.

Guests at the meeting included representatives of the Richmond schools, Richmond city officials, representatives of local service and health organizations, state education officials and state board of health officials.

George W. Waterman, director of the project, has announced the objectives of the dental demonstration survey as follows:

To determine the dental care needs of school children on an annual increment basis.

To determine the amount of dental services that can be rendered by each dentist and the manner in which auxiliary personnel and their services can be utilized to increase the care rendered by each dentist. It will also serve as a measurement for the demand for readily available dental care services.

To encourage those children who are being treated at present or who have been previously treated, by private dentists, to continue as private patients. To encourage the development of proper habit patterns in all those participating in the program so that they will continue to seek adequate and regular dental care upon passing from the ninth to a higher school grade. The program is designed to augment, not supplant, private practice.

GENERAL NEWS

VERN D. IRWIN, HEAD OF VA DISTRICT EIGHT, DIES AT 55

Vern D. Irwin, chief of the dental division, Veterans Administration, branch office eight, Minneapolis, died May 7 in the Fort Des Moines Hotel, Des Moines, Iowa, at the age of 55.

Dr. Irwin was in Des Moines to attend the annual meeting of the Iowa State Dental Society at the time of his death. The dental district he administered for the Veterans Administration was composed of Minnesota, Iowa, Nebraska, and North and South Dakota.

He has served with the Veterans Administration since 1945, first at the VA offices in Washington, D. C., where he had charge of developing the dental internship and residency plan in VA hospitals, and then as chief of the dental division in Minneapolis.

Dr. Irwin was director of the dental division, Minnesota State Health Department, from 1936 to 1945. Prior to 1936 he was engaged in private practice.

He was very active in the development of dental health programs for children, and was president of the American Association of Public Health Dentists. Dr. Irwin was editor of the *Bulletin of the American Association of Public Health Dentists,* from 1938 to 1945, and editor of *North-West Dentistry.*

Dr. Irwin was graduated from the Dental School, Northwestern University, in 1916 and served in World War I.

Identity Sought

The Office of the Prosecutor of Pleas, Freehold, N. J., is seeking to establish the identity of this woman, whose body was found April 19 near Keyport, N. J. The woman had recently had her upper central and lateral incisors extracted

DENTAL ASSISTANCE ASKED IN IDENTIFYING MURDER VICTIM

The Office of the Prosecutor of Pleas, County of Monmouth, Freehold, N. J., is seeking information concerning the identity of a murdered woman whose body was found April 19 near Keyport, N. J., in a storage trunk. The woman had been strangled with a leather dog leash.

J. Victor Carton, Prosecutor of Pleas, has asked the American Dental Association for aid in identifying the murder victim, as she had had her upper central incisors and her upper lateral incisors extracted shortly before death. It is felt that identity may be established through the dentist who removed the teeth.

Roentgenograms showed that the extracted teeth had been removed approximately two months prior to death. The woman had never worn a denture in this tooth area, as the gum line was still irregular. The only remaining teeth in the jaw were six lower teeth: two central incisors, two lateral incisors and two cuspids. The lower teeth were in good condition and clean except for a small amount of serumal calculus and slight tobacco stains.

The woman was white, aged 40 to 50, weighed 150 to 155 pounds, was five feet, three inches tall, and had light brown hair mixed with grey worn in a shoulder length bob.

Any dentist who may have treated a woman of this description is asked to communicate with Mr. Carton, Monmouth County Court House, Freehold, N. J., or with Walter J. Coughlin, Captain, Commanding Troop "C," New Jersey State Police, Trenton, N. J.

PSI OMEGA FRATERNITY TO HOLD BANQUET AT BOSTON MEETING

Gerald Mitchell, Atlanta, Ga., grand master of the national alumni chapter of Psi Omega fraternity, has announced that the Psi Omega banquet will be held August 3 at the Copley Plaza Hotel in Boston, in connection with the eighty-eighth annual meeting of the American Dental Association.

Dr. Mitchell has urged all members to attend the banquet and to attend the business meeting of the national alumni chapter, also to be held in Boston. Reservations for the banquet can be made with Glenn W. Lawrence, 412 Beacon St., Boston.

RICHARD M. JONES NAMED DIRECTOR OF BLUE CROSS

Richard M. Jones, acting director of the Blue Cross Hospital Service, has been named permanent director of the Commission.

Mr. Jones had served as acting director since the resignation of C. Rufus Rorem last January.

REPORTS OF

COUNCILS AND COMMITTEES

A.D.A. COMMITTEE TO COOPERATE WITH THE FEDERATION DENTAIRE INTERNATIONALE

AFTER extensive correspondence with the president and the secretary general of the *Fédération Dentaire Internationale,* the American Dental Association has authorized a committee to admit an enlarged quota of outstanding American dentists to membership in the *Fédération.* The members of the committee are: Martin C. Tracy, New York; Daniel F. Lynch, Washington, D. C.; Harold Hillenbrand, Chicago; R. W. McNulty, Chicago, and Oren A. Oliver, Nashville, Tenn.

At the suggestion of the permanent Bureau of the *Fédération Dentaire Internationale,* through its secretariat, the committee has accepted a national quota of 1,500 members.

Since the recommendation of such a select group would require careful consideration, the committee has appointed a membership committee consisting of one representative for each of the thirteen districts. Oren A. Oliver, Nashville, Tenn., has been named chairman of this committee, with membership as follows: District 1, Philip E. Adams; District 2, Joseph M. Glaser; District 3, Gerald D. Timmons; District 4, Louis H. Renfrow; District 5, E. C. Lunsford; District 6, R. J. Rinehart; District 7, Howard A. Hartman; District 8, R. W. McNulty; District 9, Paul H. Jeserich; District 10, L. M. FitzGerald; District 11, Aubrey L. Martin; District 12, Fred C. Elliott, and District 13, R. C. Dalgleish, with M. Don Clawson serving as coordinator.

Each committee member has been requested to name a single adviser for each state in his district in order to expedite the careful selection of the state quota in relation to the national quota of 1,500.

The *Fédération Dentaire Internationale,* since it was founded in 1900 by Charles Godon in Paris, has been one of the most influential and respected of international organizations. King Gustave of Sweden, the patron of the Section on Hygiene of the *Fédération,* once said, "The *Fédération Dentaire Internationale* was to my knowledge the most active and successful League of Nations in existence during the period between the two World Wars."

Its successful reorganization at Boston during the joint meeting with the American Dental Association will require the active cooperation of an enlarged United States membership. This new membership must represent men of good will and international understanding. They must be men who are willing to assume their full share of responsibility for carrying on the fine traditions of this international federation so that its expansion as an instrument in international affairs may be assured and dentistry may be given a powerful voice in this period of world reconstruction.

The personal contacts and friendships established between leaders in our profession throughout the world at the periodical congresses of the *Fédération* should develop a spirit of mutual con-

fidence, which is one of the indispensable conditions for harmonious international activity. It is hoped that the joint meeting in Boston will prepare the way for the revival of the traditional congresses which in the period after World War I were held at The Hague in 1921; at Philadelphia in 1926; at Paris in 1931, and at Vienna in 1936. Since the 1941 congress was to have been held in London, it is hoped that at the Boston meeting plans can be made for a fully organized congress in 1952. At the Boston meeting it is presumed that the international secretariat will announce London as the meeting place in 1952. It is hoped that a large percentage of the new members from the United States will plan to make the trip to London and join their colleagues from other countries in helping to bring about a more normal and peaceful world, the kind of world that we in dentistry must do our share in building.—*Oren A. Oliver, Chairman.*

COUNCIL ON DENTAL EDUCATION

COURSES FOR THE TRAINING OF DENTAL TECHNICIANS

Prior to the war, opportunities for the training of dental technicians, outside of a few proprietary schools, were confined largely to apprenticeship training in commercial dental laboratories. Anticipating enlarged interest in this field of endeavor on the part of veterans and feeling that a uniform minimum standard for such training should be established on a sound educational basis, the Council on Dental Education adopted, on April 27, 1946, requirements for the approval of a course of training for dental technicians to be conducted under the supervision of an accredited dental school. The course is based on the completion of an accredited four-year high school course and covers two academic years under the supervision of an accredited dental school.

A surprising number of veterans have exhibited an interest in the study of dental technology under the generous provisions of the G. I. Bill of Rights. Commercial schools offering this training have cropped up in various parts of the country. Many of these schools have been criticized severely by local and regional dental societies on the ground that they have been hastily conceived upon the profit motive, that they lack sound educational background and experience and that they lure more veterans into this study than the commercial laboratories and the private laboratories of dentists will be able to absorb.

Responsibility for the approval of schools for the training of dental technicians and of agencies for "on-the-job" training under the G. I. Bill rests with state departments of education which report to the Veterans Administration the institutions they find "qualified and equipped" to furnish this type of education.

In order that state school officers and the officers of state dental societies should be aware of the dangers in this situation, the Council, through its secretary, has sent out the following letters:

April 4, 1947

To principal state school officers:

Many returning veterans have shown an interest in securing training in dental technology with the view of securing permanent employment in the private laboratories of dentists and in commercially conducted dental laboratories. Prior to the war, beyond a few proprietary schools, there was little opportunity for special training in this field except through the apprenticeship system prevailing in some of the larger commercial dental laboratories.

Dental education emerged entirely many years ago from proprietary direction and control and is now almost wholly a function of well recognized universities. Only three of the forty dental schools in the United States remain outside of university ownership and control and these three are conducted by nonprofit institutions on the university level. Similarly, courses in dental hygiene, mainly conducted by dental schools, are all under the jurisdiction of nonprofit educational institutions.

The Council on Dental Education of the American Dental Association takes the position that the training of dental technicians can best be conducted in courses administered directly by dental schools. To that end, the Council adopted on April 27, 1946, "Requirements for the Approval of a Course of Training for Dental Technicians," a copy of which I enclose for your information. One dental school has established such a course, and it is expected that other dental schools will do so. You will observe that the course is based on the completion of a high school course, or its equivalent, and two academic years of study under the direction of a dental school.

While the Council has no authority in the premises, and assumes none, it hopes that state agencies in approving courses for the training of dental technicians under the provisions of Public Law 346, 78th Congress, will set up standards not less than those proposed. There is some danger that the number of veterans seeking this training will exceed the demands for their services. In any event, the veteran who desires to enter this field is entitled to training in the environment of an established and enduring educational institution.

Very truly yours,
Harlan H. Horner, Secretary
Council on Dental Education

April 16, 1947

To presidents and secretaries of state dental societies:

Public Law 346, 78th Congress, known as the G. I. Bill, provides for the education of veterans under the direction of the Veterans Administration in educational institutions and courses approved by the department of education in each state. It has come to the attention of the Council on Dental Education that schools and courses are being established in various parts of the country on a commercial basis for the training of dental technicians. Some of these enterprises have already been approved by state departments of education. Complaints have been received from dental societies indicating that many of these undertakings are hastily conceived, not organized on a sound educational basis and instituted primarily to profit by the provisions of the G. I. Bill.

Anticipating this situation, the Council on April 27, 1946, adopted requirements for the approval of a course of training for dental technicians, a copy of which is enclosed. It will be observed that the Council proposes a course based on high school graduation followed by two years of study under the immediate direction of a dental school. One such course is in operation, and it is expected that others will be opened next fall. Dental societies can help in the establishment of sound standards of instruction in this field by contacting their state departments of education and urging that no schools for the training of dental technicians be approved on requirements less than those prescribed by the Council.

For your information a copy of a letter sent recently to all principal state school officers on this question is enclosed.

Very truly yours,
Harlan H. Horner, Secretary
Council on Dental Education

The Council is now endeavoring to secure from the state departments of education and the Veterans Administration a complete list of the schools and "on-the-job" agencies which have been approved under the G. I. Bill of Rights for the training of dental technicians. Once a complete and authentic list has been secured, a canvass will be made to discover how many students, both veterans and nonveterans, are enrolled. It already appears

that many more are enrolled than can possibly find gainful work to do upon the completion of their studies. A course on the basis of the Council's requirements is in operation in the School of Dentistry of Meharry Medical College. The College of Dentistry of Ohio State University will open a similar course next fall.

DENTAL STUDENTS' REGISTER FOR 1946 AVAILABLE FOR DISTRIBUTION

THE Dental Students' Register for 1946 is available for distribution upon application to the Council on Dental Education. The total undergraduate enrollment in the forty dental schools of the United States as of October 15, 1946, was 8,287, of whom 8,170 were men and 117 were women. Of the total number, 3,987, or 48 per cent, offered the minimum of two years of liberal arts education for admission; 2,015, or 24.4 per cent, offered from three to four years without a degree, and 2,285, or 27.6 per cent, offered a bachelor's or other degree. Students were enrolled from every state in the Union, the number varying from eight from Nevada to 1,334 from New York.—*Harlan H. Horner, Secretary.*

COUNCIL ON DENTAL THERAPEUTICS

COUNCIL LISTS PRODUCTS FOR "ACCEPTED DENTAL REMEDIES"

THE Council on Dental Therapeutics of the American Dental Association announces the inclusion of the following product in the list of Accepted Dental Remedies:

Dentifrices[1]

Stanley Tooth Paste: Composition: See Comfort (Brand) Tooth Paste.[2]

Manufactured by Comfort Manufacturing Company, Chicago. Distributed by Stanley Home Products, Inc., Westfield, Mass.

Admission of a product to the list of Accepted Dental Remedies means that the product and the methods by which it was marketed at the time of consideration were not found to be in violation of the Council's published rules. Accepted products are reconsidered periodically. The files of the Council contain information on many drugs and dental cosmetics which is available upon request, and inquiries are welcomed.—*Donald A. Wallace, Secretary.*

1. A.D.F., Ed. 12, p. 156.
2. A.D.R., Ed. 12, p. 159.

The Ivory Cross Expedition to the Netherlands.

By Lester W. Burket, M.D., D.D.S., and John Burkhardt, Jr., D.D.S., Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania, Philadelphia.

The Ivory Cross Expedition to the Netherlands in the summer of 1946 was the first civilian international scientific expedition to go to Europe after the conclusion of World War II. This expedition was named for an already existing organization in the Netherlands, sponsored by Princess Juliana, the purpose of which was the promotion of better dental health. The Ivory Cross Expedition was organized and conducted primarily to inform the Dutch dentists of developments in the arts and science of dentistry which took place during the war years. In addition to the Dutch dentists, representatives of other European countries attended the courses by invitation.

The courses held in Amsterdam were attended by 361 dentists from eight European countries. There were 309 dentists from the Netherlands, 15 from Denmark, 8 from England, 20 from Switzerland, 4 from Belgium, 3 from Luxemburg and 1 each from Norway and Czechoslovakia. The European colleagues consisted of those who held positions of prominence in the dental profession in their respective countries and those who sent supplies and parcels of food to the dentists of the Netherlands during and after the difficult years of the occupation.

Credit for the idea which culminated in the Ivory Cross Expedition goes to Herbert Loeb of Cambridge, Mass., former Dutch subject and former president of the Amsterdam section of the Netherlands Dental Association. In March 1943, long before the liberation of his native country became a reality, Dr. Loeb began the organization of a group for the presentation of refresher and postgraduate courses to the Dutch dentists. Dr. Loeb sought the assistance of J. L. T. Appleton, dean of the Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania, where Dr. Loeb received his American dental education. A competent group of teachers and clinicians was selected to present instruction in the phases of dental practice which had been requested by the Dutch dentists through the underground.

With the liberation of the Netherlands in the spring of 1945, more definite arrangements for this educational mission became possible. Dr. Loeb informed G. Bolkestein, then minister of education of the Netherlands, of the proposed plans for the Ivory Cross Expedition. The minister of education was in hearty support of this endeavor and offered to assist it financially, but it was eventually decided that no financial aid be accepted from the Dutch government.

Many members who were originally chosen for this educational mission in 1943 found it impossible for various reasons to accept. When the expedition became a reality, the final personnel included the following members of the faculty of the Thomas W. Evans Museum and Dental Institute School of Dentistry of the University of Pennsylvania, who gave instruction in their respective subjects: L. W. Burket, professor of oral medicine; John Burkhardt, Jr., professor of clinical operative dentistry; LeRoy M. Ennis, professor of roentgenology; E. H. Smith, professor of prosthetic dentistry, and Vincent R. Trapozzano, professor of clinical prosthetic dentistry. Edward C. Dobbs, associate professor of therapeutics of the Baltimore College of Dental Surgery, University of Maryland, gave lectures on dental therapeutics, including the oral application of the antibiotic agents. Karl W. Knapp, formerly professor of the crown and bridge department, College of Dentistry, New York University, and Ferdinand G. Neurohr, special lecturer at the School of Dental and Oral Surgery of the Faculty of Medicine, Columbia University, presented courses in partial denture prosthesis and crown and bridge prosthesis.

Dr. Alexander Loudon, Dutch ambassador to the United States, gave a luncheon in Philadelphia on March 5, 1946 in our honor. He expressed officially the recognition and appreciation of the Dutch government for this undertaking and his own wish to do everything possible to contribute to the success of this mission.

On July 12, we arrived in Amsterdam, where we were welcomed by the organization

and reception committees of the Ivory Cross in Holland, consisting of Charles F. L. Nord, secretary-general of the *Fédération Dentaire Internationale (F.D.I.)*, a man who is well known by European dentists; Dr. Peter C. Wilhelmse; J. A. M. deDecker; E. J. van den Berg; Jan Visser; M. H. J. Koenen, and F. Langkof.

Regular lectures began on July 15, three hours in the morning and three hours in the afternoon. After each lecture there was a ten minute intermission, during which coffee and tea were served.

All the lecturers were impressed by the interest shown by the participants, their keen attention and intelligent questions. All lectures were given in English, which was adequately understood by the European dentists.

In addition to the regular scheduled lectures, table clinics on crown and bridge prosthesis and partial denture prosthesis were given during the noon hour. Special clinical demonstrations of impression taking and full denture prosthesis were given by the clinicians in the offices of the local dentists. Motion pictures depicting the technics discussed in the regular lectures were shown in the evening. In addition, other motion pictures demonstrating different clinical and technical procedures were shown to the members taking the course. One evening was devoted to a symposium on focal infection.

On July 15, a formal reception was given in honor of the members of the Ivory Cross Expedition by the minister of education who acted for the Dutch government. This reception was held at the University of Amsterdam, an institution having its origin about 1600. A private reception was given to the members of the expedition in the faculty room of the university by official representatives of the Dutch government; the city of Amsterdam; the University of Amsterdam; Mr. Hollenbach, American ambassador to the Netherlands; Mr. Doyle, American consul general, and the members of the Ivory Cross arrangements committee.

The public reception followed, to which members taking the course and members of the Dutch dental profession were invited. This reception was held in the impressive auditorium, the Aula, of the University of Amsterdam. Dr. deRanitz, acting minister of education for the Netherlands, made the opening speech of welcome and then presented the new proposals made by the government for dental education in the Netherlands. In contrast to the present nonacademic status of dentistry in Holland, it was proposed that dentistry be regarded as a profession in which the teachers of dentistry would have academic standing comparable to that now existing in the medical profession. It was recommended, however, that instruction in dentistry be given under the supervision of the medical faculty or as a division or a department of the medical school. It was also proposed by Dr. deRanitz that two new dental schools be established, making, with the dental school of the University of Utrecht, three dental schools in Holland. It was further proposed that the dental curriculum be of four years' duration, with the course the first two years being in most respects identical in scope and detail to that received by the medical students.

Jan Visser, a graduate of the School of Dentistry, University of Pennsylvania, spoke as a representative for the dental profession in Holland. He emphasized the desirability of the complete autonomy of dental education, the need for better professional recognition and the need for ancillary dental personnel, such as the dental nurse or the dental hygienist. Dr. Burket replied for the members of the expedition, giving the general features of dental education in the United States, including the role of the dental hygienist.

After this reception, a dinner was given in honor of the members of the expedition by the Netherlands government at the Hotel l'Europe. The Amsterdam Dental Society entertained the members of the expedition and the participants of the course on Wednesday evening, July 17, at a small private night club, LeRossignol. On Saturday afternoon, a formal reception was given the members of the expedition by the burgomaster of Amsterdam in the municipal building. For the first time we were informed that a motion picture cameraman had been assigned by the Dutch government to record the activities of the Ivory Cross Expedition.

The three national Dutch dental societies entertained the members of the expedition and the participants at a dinner at Laren, about 15 miles from Amsterdam.

The American Business Men's Club of Amsterdam gave a luncheon in honor of the

expedition. Dr. Burkhardt gave a talk on "Dentistry in America," later published in the ABC News Letter, which has widespread circulation throughout Europe.

On August 10, a farewell luncheon was given the members of the Ivory Cross Expedition by the local arrangements committee. Representatives from the Dutch government and the city of Amsterdam and the American consul general were in attendance. Each member of the Ivory Cross Expedition received a specially made delft china plate, the first since the war. A large commemorative plate was presented to the School of Dentistry, University of Pennsylvania.—*4001 Spruce Street.*

A Stable Camera Support Eliminating the Use of the Tripod. By LeRoy D. Levey, D.D.S., M.S.D., Chicago.

In seeking a suitable camera holding device which would eliminate a floor support, I decided that this support must possess the following qualifications: It must place the camera within easy reach of the operator; it must be adjustable up and down and forward and backward; the camera should be able to describe a revolution of 360 degrees freely; there should be a ball and socket arrangement somewhere below the camera for the final adjustment in positioning the camera; there should be an adjustment to permit lateral movement, and the camera should not encroach on the operative field when it is not in use.

In devising this support, I first purchased an operating light arm, which may be described as follows: At the uppermost portion of a vertical tubular column is a pin which supports a horizontal arm and allows the arm to swing freely in a horizontal circular plane. This arm is also attached to the upright column by means of a friction device which permits upward and downward movements. The horizontal arm contains within itself another arm which acts on a telescopic principle. The horizontal arm is finished with a ball and socket arrangement and supports another upright fixture which contains a lamp socket and holds the glass covering for the operating light. This shall be called the lamp housing.

The whole arm assembly, as shown in Figure

Fig. 2.—Support arm out of the way when the camera is not in use

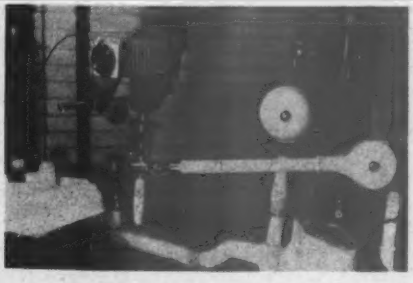

Fig. 1.—Arm assembly

Fig. 3.—Use of camera in facial photography

Fig. 4.—Extension of telescopic arm

Fig. 5.—Position of camera in photographing models

1, was placed on the unit support. If no unit exists in the operator's office, a bracket can easily be made by securing a piece of steel stock one and a half inches in diameter and two and a half inches high and attaching it to a steel plate one and a half inches by one-quarter inch by four inches. This plate can be bent on the end, drilled with a one-quarter inch drill and fastened to the wall.

The lamp housing was then inverted, the socket was removed from the lamp housing and a circular piece of steel plate two and three-eighths inches in diameter by one-quarter inch in thickness was secured. A one-quarter inch hole was drilled in the center of this plate, through which a bolt was passed up into the camera. This retaining plate was dropped into the lamp housing and the set screw which previously held a glass bowl to the housing was tightened, thus preventing the plate from tipping out.

This supporting arm, when not in use, is not cumbersome nor does it encroach on the area normally used for operating (Fig. 2). This arm, because of its versatility, gives the operator more leeway than does the ordinary tripod (Fig. 3). There is no possibility of anyone damaging photographic equipment by bumping into the tripod accidentally. The versatility of the camera support allows for both facial and intra-oral photography (Fig. 4).

Figure 5 shows a method of photographing models. This ball and socket attachment, by virtue of the arrangement, also permits the operator to place the lens of the camera in a vertical position for the same purpose.—*2501 West Devon Avenue.*

Education of Veterans.—Forty per cent of all World War II veterans have applied for some form of education and training under laws administered by the Veterans Administration. Applications totaled 5,842,290 by the end of February, including 5,182,523 who had applied for education or training under the G. I. Bill and 659,767 who had applied for vocational rehabilitation under Public Law 16 for disabled veterans.

A total of 2,495,403 veterans were enrolled in courses under the two laws at the end of February. Of this group 91 per cent, or 2,284,861, were enrolled under the G. I. Bill and 210,542 under Public Law 16.

School and college courses accounted for 71 per cent of all trainees, while the other 29 per cent were in on-the-job training.—*Veterans Administration Release, March 22, 1947.*

BOOK REVIEWS

Harvey Cushing: A Biography. By John F. Fulton. 754 pages. 150 illustrations. Cloth. Price $5. Springfield, Ill.: Charles C. Thomas, 1946.

The author and surgeon who was awarded the Pulitzer Prize for his *Life of Sir William Osler* in 1926 now, in turn, becomes the subject of an "official" biography written by one of his former students. Harvey Cushing, who died in 1939 at the age of 70, combined the uncommon abilities of surgeon and man of letters. His life bridged one of the most important periods in modern medical history. He participated actively in the medical progress made during World War I and he lived to see the opening of the second world conflict. Cushing's life provides a deeply interesting record because of his extreme versatility in various fields. His achievements as a brain surgeon were matched by his contributions to the field of medical bibliography and medical letters. All of his activities were reinforced by an unusual and electric personality.

This is an "official" biography in the sense that its author had access to all of the diaries, correspondence and other material which Cushing, a voluminous writer, had left behind. It is also "official" in the sense that it is not as critical as future biographies are likely to be. The relation of student and former teacher is evident in many of Fulton's attitudes, and the deep friendship that existed between the two does nothing to increase the author's detachment. In general, however, it is a competent, if voluminous, biography. Fulton has made good use of his materials though tighter editing would have reduced the somewhat formidable bulk of this volume.

Cushing spent his early days in the profession in the company of Halsted, Osler and Welch at Johns Hopkins. To a remarkable degree, he was heir to the leadership which this great trio had provided in medical education and medical science. His own researches in the field of neurosurgery and his ability to be sharply articulate on almost any phase of practice made him one of the outstanding figures of modern medicine. As might be expected Cushing was the familiar of leaders in all fields, and the biography is particularly rewarding in his account and evaluation of these personalities. Not the least interesting section is that devoted to Cushing's extensive interest in medical bibliography, and his efforts to build one of the most important private collections in existence again reflect the influence of Osler. The influence of Osler is also shown in the rich and fluent prose with which Cushing discusses medical and social problems in his correspondence and essays.

Almost any reader will find this a fascinating volume full of the wit, pride and achievements of an unusual man. In addition, it provides a superb portrait of many of the personalities who were leaders in the generations since the turn of the century.

The 1946 Year Book of Dentistry. Edited by Lester Cahn, D.D.S.; George W. Wilson, D.D.S.; Carl W. Waldron, M.D., D.D.S.; Stanley D. Tylman, D.D.S., M.S., and George R. Moore, D.D.S., M.S. 713 pages, with 404 illustrations. Cloth. Price $3.75. Chicago: Year Book Publishers, Inc., 1947.

The format of this book, a new volume of which is issued each year, is familiar to most readers. The volume is divided into five sections, each assembled by a different editor. The sections are oral pathology and oral medicine, operative dentistry, oral surgery, prosthetic dentistry and orthodontics. Current articles considered to be of interest and value are selected by the editors and digested, and pertinent editorial comment follows certain of the articles. The volume is attractively printed on clear paper and is nicely illustrated.

The Year Book is a most convenient way to keep up with the best in current literature. The time of the original publication of the articles digested ranges from July 1945 to September 1946. Most of the articles in the volume were published about a year ago. The value of this publication would be enhanced by the inclusion of more articles of more recent publication in each yearly volume. However, as it stands at present, a good résumé of pertinent dental literature of the year 1945-1946 is presented at a reasonable price. This book can be recommended heartily to all dentists.—*Frank F. Kanthak.*

Do Certain Drinking Waters Favor Dental Caries? H. Klein. Science 103:4, January 3, 1947.

More than 3,000 school children were examined in five communities in southern New Jersey. In three of these communities the water supplies contain 1.4 to 2.2 parts per million of fluorine and the remaining two communities have water supplies which are fluorine free. Of the group, 1,307 children were born in localities outside the five communities studied and had migrated at various ages into the communities where the examinations were made. Those consuming flouride continuously since arrival numbered 882; those consuming waters containing no fluorine totaled 425. The data indicate that, the sooner after birth a child arrives in the fluoride area and is continuously exposed to water containing fluorine, the lower the rate of caries attack will be. The conclusion is reached that, for migrants, drinking of waters containing fluorine is associated with lower rates of dental caries attack. In contrast, among migrants into the nonfluoride area those who are the most recent arrivals have the best teeth, and those who have been in the nonfluoride area the longest time have the worst teeth. These findings suggest that, just as there are factors in drinking water which favor resistance to tooth decay, there may be factors in drinking water which make the teeth more vulnerable to dental caries.—*J. E. Gilda.*

Penicillin as an Oral Therapeutic Agent. Robert W. Rule, Jr. J. Periodont. 17:110, July 1946.

The history of penicillin medication is reviewed, and the various routes of its administration are described. Observations were made of the oral effects of a penicillin lozenge containing 1,000 unit doses as devised by J. P. Jones and L. K. Chan of the University of California. The use of these lozenges in the presence of penicillin-susceptible organisms was satisfactory, but the author emphasizes that prophylactic and surgical measures are also required to obtain a cure of most oral infections.

Clinical experience with oral applications of penicillin shows evidence of its value in combating either primary or secondary infectious processes in the mouth. Penicillin is recommended for cellulitis of the face and jaws, osteomyelitis of the jaws, Ludwig's angina and sinus infections of a dental origin. It is also used as a prophylactic measure against bacterial endocarditis preceding the extraction of teeth in patients with heart lesions and in the treatment of bacterial endocarditis following the removal of teeth. In the aforementioned types of cases intramuscular doses of 30,000 to 50,000 units every three hours are recommended, which in cases of milder infections may be reduced to 20,000 units.

Local applications of penicillin are used by Wright and Rule in the treatment of ulcerative gingivitis and stomatitis, Vincent's infection, gingival hypertrophies of bacterial origin, pregnancy gingivitis, aphthous stomatitis, pericoronitis and periodontosis. In the treatment of periodontal abscesses an ointment containing 1,000 units per gram or a saline solution having 1,000 to 5,000 units per cubic centimeter may be introduced.

Wright and Rule have observed minor toxic symptoms in a limited number of cases after the use of penicillin lozenges. They do not recommend the routine use of penicillin after extractions. They believe penicillin to be a highly satisfactory and comparatively safe therapeutic agent in the prevention and cure of oral infections, especially acute lesions. Reports of nine cases are given in which the penicillin lozenges were used in connection with prophylactic measures with a high degree of success.—*R. W. B.*

Bismuth Gingivostomatitis. Irwin Walter Scopp. Mil. Surgeon 99: September 1946.

No patient receiving bismuth in antisyphilitic treatment is getting adequate care unless he is being observed and treated by a dentist. Several factors predispose to the bismuth line and gingival destruction, serumal and salivary tartar around the teeth being the most frequent. Pyorrhea pockets caused by traumatic occlusion, overhanging margins, poorly fitting crowns and cervical caries have also been found to be predisposing factors. In a clean mouth the bluish-black line rarely occurs, provided the patient does not receive an overdose of bismuth.

LIST OF DENTAL OFFICERS

SEPARATED FROM ARMY DENTAL CORPS

THE following list of dental officers separated from the Army Dental Corps does not include rank because such information is no longer furnished by the Surgeon General's Office. Publication will be given to other names as soon as possible.

California

Alhambra	Galeotti, Albert N.
Arcadia	Willcox, Jonas C.
Galt	Ireland, Donald H.
Los Angeles	Heller, Arthur L.
Los Angeles	Honig, Clarence D.
Los Angeles	Koper, Alex
Los Angeles	Krevoy, Melvin S.
Los Angeles	Van Osdel, Robert L.
Los Angeles	Wilkes, Alfred H.
Los Angeles	Zaslow, Henry F.
North Hollywood	Neil, William D., Jr.
Oakland	Wetzel, Robert N.
Oakland	Wise, Herbert S.
San Francisco	Cowan, Eugene B.
San Francisco	Eyen, Michael J.
San Francisco	Hibser, Louis F.
San Francisco	Lawrence, Clifford S., Jr.
San Francisco	Lewis, James B.
San Francisco	Piccini, Harry J.
San Francisco	Ross, Leighton
San Francisco	Whelton, Bartlett D.
San Francisco	Wiander, John F.
San Mateo	Cameron, Robert C.
Saratoga	Warenskjold, Sidney B.
Willows	West, Louis G.

Connecticut

Bridgeport	Bourassa, Henry L.
Hartford	Kornreich, Kenneth D.
Hartford	Zito, Donald R.
Southington	Neal, Floyd W.

Delaware

Dover	Zurkow, Robert J.
Harrington	Smithy, Robert H.
Wilmington	Olszewski, Edward P.

District of Columbia

Washington	Costa, David, Jr.
Washington	Hurley, John E.
Washington	Kemerer, Verne F.
Washington	Landes, Isaac J.

Florida

Pensacola	Smart, James G.
Tallahassee	McCullum, William R.
Tampa	Watson, Clem H.

Illinois

Aurora	Williams, John M.
Belleville	Leunig, Irvin A., Jr.
Branite	Green, Millard C., Jr.
Chicago	Diamond, Henry R.
Chicago	Hartmann, Edward W.
Chicago	Hoglund, Carl W.
Chicago	Iwick, Ewald A.
Chicago	Kiechler, Robert J.
Chicago	Lasker, Harry N.
Chicago	Mase, Wilfred E.
Chicago	Meyer, Edward S.
Chicago	Pancoska, Leo J.
Chicago	Price, Nathaniel
Chicago	Schroeder, Robert F.
Chicago	Silverman, Hymen L.
Chicago	Stroble, Gregory F.
Chicago	Thomas, David W.
Chicago	Wall, Maurice H.
Chicago	Watson, Richard H.
Chicago	Weiss, Marvin B.
Chicago	Weisser, Nathan
Chicago	Weller, Delbert G.
Chicago	Widen, Bernard A.
Chicago	Wroblewski, Henry S.
Chicago	Zissman, Fred S.
DeKalb	Jenkins, Dale S.
McHenry	Justen, Bernard P.
Mattoon	Neal, Wayne T.
Maywood	Weinberg, Emanuel H.
Maywood	Wolgemuth, Theodore J.
Mt. Vernon	Leach, William E.
Mt. Vernon	Waters, George W.
Streator	Shaheen, Edward J.

Indiana

East Chicago	Wadas, Frank J.
Edwardsport	Kixmiller, Roy L.
Evansville	Wesner, James L.
Farmland	White, Robert F.
Franklin	Weatherford, Floyd W.
Freelandville	Kirchoff, Wayne F.
Greenfield	Walker, Charles E.
Hammond	Hulett, Robert L.
Indianapolis	Poyser, Max E.
Indianapolis	Segal, Oscar B.
Kokomo	Young, Richard E.
Liberty	Mitchell, Joseph L.

Iowa

Iowa City	Young, Robert T.
Orange City	Van de Waa, Carl D.
Pleasantville	Warren, Benjamin M.
Sheffield	Atkinson, John H.

Kansas	
Hutchinson	Maddern, Clarence J.
Leavenworth	Hanlon, John P.
Winfield	Hetherington, Marion L.
Kentucky	
Louisville	Ferland, Darius J.
Louisville	Moser, Louis F.
Warsaw	Shupert, Harlan B.
Louisiana	
New Orleans	White, Paul G., Jr.
Maine	
Portland	Cunningham, James H.
Maryland	
Baltimore	Margeson, Clarence E.
Greensboro	Vandegrift, Edward W.
Massachusetts	
Brookline	Shapiro, Everett
Lowell	Krawczun, William A.
Newton Highlands	Thompson, Harry A.
Newtonville	Whitehill, Duncan K.
Weymouth	Blaney, Robert L.
Michigan	
Detroit	Baetz, Frederick O.
Detroit	Edmunds, Clarence L.
Detroit	Kunin, Israel J.
Lansing	Thrun, Gerhard E.
St. Joseph	Ringer, Robert W.
Minnesota	
Frost	Johnson, Milburn W.
Minneapolis	Vanderhoef, Lewis D.
Minneapolis	Westman, Lloyd W.
Minneapolis	White, John F.
St. Paul	Arouni, John J.
St. Paul	Burningham, Robert C.
St. Paul	Mears, Hiram E.
Spring Grove	Tollefsrud, Cleon A.
Mississippi	
Vosburg	Arledge, Carter I.
Missouri	
Kansas City	Wallman, Louis A.
Macon	Vance, Cecil W.
Overland	Killmer, Hugh D.
St. Louis	Klein, Ray T.
St. Louis	Krueger, Russell L.
St. Louis	Weiler, Joseph T.
St. Louis	Zanitsch, Frank H.
University City	Meyers, Edward I.
Montana	
Billings	Watson, Leroy E.
Nebraska	
Lincoln	Larson, James A.
Lorton	Paben, Lawrence J.
Omaha	Putnam, William J.
Omaha	Tuhy, Adolph V.
Wolbach	Chamberlain, Raymond M.
New Jersey	
Elizabeth	Victorine, Charles
Essex	Tuffiash, Joseph S.
Fort Lee	Johansen, Carey
Hudson	Safro, Abraham I.
Irvington	Yerich, Jack
Kearny	Wiener, Arthur J.
Lyons	Marsh, Robert E.
Newark	Watson, David R.
Orange	Weinstein, Herbert M.
Paterson	Wenger, Abe
Trenton	White, William C., Jr.
New York	
Bellerose	Rachleff, David
Binghamton	Melamed, Myron A.
Bronx	Fried, Isidore I.
Bronx	Redka, Henry R.
Bronx	Silverman, Raphael
Bronx	Topperman, David
Bronx	Weiselberg, Martin
Brooklyn	Abramo, Nickolas R.
Brooklyn	Berlin, Sanford M.
Brooklyn	Blaustein, Lawrence
Brooklyn	Capper, Bernard M.
Brooklyn	Gladstone, Seymour A.
Brooklyn	Greenberg, Arthur
Brooklyn	Hurewitz, Daniel
Brooklyn	Hyman, Harold P.
Brooklyn	Kaye, David A.
Brooklyn	Levine, Shepard
Brooklyn	Lichterman, Sigmund B.
Brooklyn	Locker, Marvin
Brooklyn	Mond, Stanley L.
Brooklyn	Paskow, Joseph
Brooklyn	Popper, Felix P.
Brooklyn	Schott, Alvin A.
Brooklyn	Sciabarasi, Matthew
Brooklyn	Swerdlove, Carlton K.
Brooklyn	Travin, Harold F.
Brooklyn	Weitz, Nat
Buffalo	Falcone, John G.
Buffalo	Strickland, Robert L.
College Point	Visco, Gennaro J.
Eggertsville	Weitz, Daniel A.
Forest Hills	DiStasi, Samuel M.
Fulton	Cincotta, Francis T.
Glen Cove	Kaufman, Solomon
Hoosick Falls	Harrison, Harry P.
Long Island	Zaia, Sylvester
Long Island	Zimler, Hyman
Marathon	Brink, Richard G.
Marlboro	Zambito, Salvatore
New York	Birnbach, Seymour
New York	Freedman, James J.
New York	Gross, George J.
New York	Jarmon, Emanuel
New York	Kiman, Richard A.
New York	Masserman, Joseph
New York	Mondschein, Stanley
New York	Orr, Harold
New York	Peltz, David
New York	Peress, Abraham H.
New York	Santangelo, George M.
New York	Stelljes, George R.

DEATHS

McArthur, Daniel D., Salt Lake City; Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania, 1915; died March 24; aged 56.

McCullough, Frank A., Troy, Ohio; Ohio College of Dental Surgery, Dental Department of the University of Cincinnati, 1903; died February 2; aged 70.

McGinnis, B. J., Beaumont, Texas; Baltimore College of Dental Surgery, 1922; died February 2.

McGuire, Frank T., Philadelphia; Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania, 1917; died February 27; aged 52.

McKellar, Stanley L., South Pasadena, Calif.; College of Dentistry, University of Southern California, 1915; died April 11; aged 50.

McKibben, Archibald H., Ventnor, N. J.; School of Dentistry, Temple University, 1907; died February 2.

McMahon, Carl C., Maplewood, Mo.; died April 16; aged 73.

McMahon, William E., Bridgeport, Conn.; died April 8; aged 68.

McNulty, James A., Chicago; College of Dentistry, University of Illinois, 1910; died March 24; aged 61.

Marsden, Charles L., Chicago; Columbian Dental College, 1897; died March 15; aged 70.

Martin, C. A., Winfield, Kan.; Kansas City Dental College, 1899; died February 21; aged 76.

Masselink, Benjamin H., Kalamazoo, Mich.; College of Dental Surgery, University of Michigan, 1902; died March 1; aged 74.

Matthews, Clyde V., Baltimore; Dental Department, University of Maryland, 1902; died March 19.

Maybury, Richard S., Minneapolis; died March 21; aged 62.

Mayer, Fred J., Philadelphia; Dental School, University of Pennsylvania, 1890; died April 14; aged 79.

Messecar, Lyman, Washington, D. C.; School of Dentistry, Western Reserve University, 1902; died February 20; aged 73.

Moffett, Henry E., Cleveland; School of Dentistry, Western Reserve University, 1906; died April 5.

Moore, E. C., Atlanta, Ga.; Atlanta-Southern Dental College, 1925; died February 20; aged 53.

Morris, Doyle B., Carmi, Ill.; School of Dentistry, St. Louis University, 1915; died February 21; aged 56.

Morrow, A. W., Villa Park, Ill.; Chicago College of Dental Surgery, Dental Department of Loyola University, 1895; died January 30; aged 72.

Morton, L. G., New Vienna, Ohio; Cincinnati College of Dental Surgery, 1910; died April 20; aged 62.

Mullen, David C., Pittsburgh; died March 17.

Nulty, Thomas E., Glens Falls, N. Y.; Dental School, Tufts College, 1918; died April 15; aged 55.

Opper, Jacob E., Cleveland; Chicago College of Dental Surgery, Dental Department of Loyola University, 1919; died April 5; aged 56.

Owen, George H., St. Louis; School of Dentistry, Washington University, 1896; died April 11; aged 79.

Owens, Charles W., Terre Haute, Ind.; died April 20; aged 73.

Parks, Louie H., Exeter, Calif.; died March 27; aged 69.

Perdue, C. H., Macon, Ga.; School of Dentistry and the Baltimore College of Dental Surgery, 1896; died March 22.

Reynolds, W. A., Bloomfield, Mo.; died March 21; aged 72.

Roy, Maurice, Paris, France; L'Ecole Dentaire de Paris, 1886; died January 5; aged 81.

Schauf, E. J., Quincy, Ill.; Dental School, Northwestern University, 1921; died April 5; aged 50.

Smith, L. Weston, Syracuse, N. Y.; School of Dentistry, University of Buffalo, 1899; died April 5.

Smith, Robert W., Ellijay, Ga.; died October 13; aged 56.

Tasche, Herman, Sheboygan, Wis.; School of Dentistry, Marquette University, 1903; died April 5; aged 72.

Thayer, L. C., Nappanee, Ind.; College of Dental Surgery, University of Michigan, 1891; died April 5; aged 91.

Thomsen, Harold, Beemer, Neb.; Omaha Dental College, Dental Department of the University of Omaha, 1900; died March 22; aged 69.

Tice, Charles H., Stanton, N. J.; Baltimore College of Dental Surgery, 1898; died April 11; aged 69.

Warren, John E., Leaksville, Va.; died March 15; aged 72.

Watson, Charles G., Granite City, Ill.; died April 21; aged 52.

Wells, M. Clyde, Atlanta, Ga.; Southern Dental College, 1914; died April 2; aged 67.

DIRECTORY

Officers

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MEETINGS OF STATE SOCIETIES

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Arizona			B. K. Litt	68 E. Congress, Tucson
Arkansas			I. M. Sternberg	Merchants Bank Bldg., Ft. Smith
California			L. E. Linehan	450 Sutter St., San Francisco
S. California	Sept. 15–17	Los Angeles	M. E. Ralston	903 Crenshaw Blvd., Los Angeles 6
Colorado			R. A. Downs	724 Republic Bldg., Denver 2
Connecticut			E. S. Arnold	37 Linnard Rd., W. Hartford
Delaware			J. Krygier	309 S. State St., Dover
D. of Columbia			K. H. Wood	202-1835 Eye St., N.W., Washington
Florida	Nov. 10–12	St. Petersburg	J. I. Todd	433 St. James Bldg., Jacksonville
Georgia	Oct. 19–22	Atlanta	J. M. Heard, Jr.	Persons Bldg., Macon
Hawaii	October	Honolulu	J. H. Dawe	P. O. Box 39, Honolulu 10
Idaho			H. F. Miller	Moscow
Illinois	Oct. 9–11	Peoria	P. W. Clopper	623 Jefferson Bldg., Peoria 2
Indiana			E. E. Ewbank	Kingman
Iowa			A. N. Humiston	417 Higley Bldg., Cedar Rapids
Kansas			F. A. Richmond	1008 Huron Bldg., Kansas City
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Maryland			J. H. Shackelford	706 Baltimore Life Bldg., Baltimore 1
Massachusetts			P. E. Adams	106 Marlborough St., Boston
Michigan			F. Wertheimer	Michigan Department of Health, Lansing
Minnesota	Feb. 23–25, 1948	St. Paul	L. M. Cruttenden	Lowry Medical Arts Bldg., St. Paul
Mississippi			O. L. Colee	Magnolia
Missouri			C. W. Digges	Exchange National Bank Bldg., Columbia
Montana			C. S. Renouard	305 Phoenix Bldg., Butte
Nebraska			F. A. Pierson	Federal Securities Bldg., Lincoln
Nevada			L. G. Jacob	505 Chestnut St., Reno
New Hampshire	June 15–17	Portsmouth	F. E. Williams	814 Elm St., Manchester
New Jersey			J. G. Carr	407 Cooper St., Camden
New Mexico			J. S. Eilar	First National Bank Bldg., Albuquerque
New York			C. A. Wilkie	1 Hanson Place, Brooklyn
North Carolina	April 26–28, 1948	Asheville	C. W. Sanders	Benson
North Dakota			K. G. Allen	Fargo
Ohio	Nov. 9–12	Cleveland	E. G. Jones	185 E. State St., Columbus
Oklahoma			E. W. Wise	Medical Arts Bldg., Tulsa
Oregon			W. H. Hurley	922 Selling Bldg., Portland 5
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South Dakota			E. W. Elmen	Sioux Falls
Tennessee			E. J. Justis	Exchange Bldg., Memphis
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Washington			F. J. Dingler	1502 Medical & Dental Bldg., Seattle 1
West Virginia			C. J. Gavelda	Clarksburg
Wisconsin			K. F. Crane	1233 Bankers Bldg., Milwaukee 2
Wyoming	June 19–21	Casper	J. D. McNiff	208 Grand Ave., Laramie

MEETINGS OF STATE BOARDS OF DENTAL EXAMINERS

State	Date	Place	Secretary	Address
Alabama	June 23–27	Birmingham	M. W. Gaillard	Merchants Bank Bldg., Mobile
Arizona	June 25–28	Phoenix	R. K. Trueblood	25 N. Second Ave., Glendale
Arkansas	June 23	Little Rock	H. E. Hanna	National Bank of Commerce Bldg., El Dorado
California	June 16 July 14	Los Angeles San Francisco	K. I. Nesbitt	515 Van Ness Ave., San Francisco 2
Colorado	June 15–19	Denver	E. G. Netherton	724 Republic Bldg., Denver 2
Connecticut	June 24–28	Hartford	C. G. Brooks	New London
Delaware	June 25–27	Wilmington	P. K. Musselman	Newark
Florida	June 30–July 3	Jacksonville	A. W. Kellner	P. O. Box 155, Hollywood
Illinois	June 24–27	Chicago	W. A. McKee	503 Wood Bldg., Benton
Indiana	June 16–19	Indianapolis	C. A. Frech	Gary National Bank Bldg., Gary
Kentucky	Sept. 22–25	Louisville	R. I. Todd	Western Union Bldg., Richmond
Massachusetts	July 7–9	Boston	J. C. Wilson	413 N. State House, Boston
Michigan	June 16	Detroit	J. L. Champagne	502 David Whitney Bldg., Detroit 26
Minnesota	June 16–21	Minneapolis	E. E. Comartin	334-100 First Avenue Bldg., Rochester
Mississippi	June 17–19	Jackson	W. R. Madden	Forest
North Carolina	June 23	Raleigh	F. O. Alford	Charlotte
North Dakota	July 6–11	Fargo	W. J. Ford	Fargo
Ohio	June 16–21*	Cleveland	F. D. Lowry	79 E. State St., Columbus
Oregon	July 7–10	Portland	F. L. Utter	506 Pioneer Trust Bldg., Salem
Pennsylvania	June 23–28†	Philadelphia and Pittsburgh	R. E. V. Miller	Northampton National Bank Bldg., Easton
South Carolina	July 7	Columbia	E. G. Bumgardner	1517 Hampton St., Columbia 29
South Dakota	June 22–26	Sioux Falls	T. E. Burrington	Box 5, Rapid City
Vermont	June 23–25	Montpelier	C. I. Taggart	139 Bank St., Burlington
Virginia	June 18–21	Richmond	J. M. Hughes	715 Medical Arts Bldg., Richmond
West Virginia	June 23–26	West Liberty	R. H. Davis	510 Goff Bldg., Clarksburg
Wyoming	June 23	Casper	O. R. Docekal	Sheridan

*Practical, June 16-18 (dental); June 17 (hygienists).
Theory, June 19-21.
†Written, June 23-25 (dental); June 24-25 (hygienists).
Clinical, June 26-28 (dental); June 26 (hygienists).

OTHER MEETINGS

Name	Date	City	Secy. or Chm.	Address
American Academy of Periodontology, Twenty-Ninth Annual Meeting	July 31–Aug. 2	Boston	C. E. Chamberlain Secy.	633 Jefferson Bldg., Peoria, Ill.
American Association of Dental Schools	June 23–25	Chicago	J. E. Buhler Secy.	School of Dentistry, Temple University, Philadelphia 30
American Board of Oral Surgery	July 29–30*	Boston	L. M. Fitzgerald Secy.	718 Roshek Bldg., Dubuque, Iowa
American Dental Assistants Association	Aug. 4–7	Boston	A. M. Ferguson	709 Centre St., Jamaica Plain, Mass.
American Dental Association	Aug. 4–8	Boston	H. Hillenbrand Secy.	222 E. Superior St., Chicago
American Dental Hygienists' Association	Aug. 4–8	Boston	A. R. Fisk Secy.	1704 N. Troy St., Arlington, Va.
American Dental Society of Europe	Aug. 1948	London	K. C. Campbell Secy.	88 Portland Place, London, W. 1.
American Society of Oral Surgeons, Twenty-Ninth Annual Meeting	July 30–Aug. 2	Boston	H. Bear Secy.	1112 E. Clay St., Richmond 19, Va.
National Dental Association, Thirty-Fourth Annual Meeting	Aug. 11–15	Detroit	J. A. Jackson Secy.	Box 197, Charlottesville, Va.
Canadian Dental Association, National Convention	June 24–27	Digby, Nova Scotia	D. W. Gullett Secy.	211 Huron St., Toronto
British Dental Association, First Annual Peacetime Conference	June 16–21	Bournemouth	W. G. Senior Secy.	13 Hill St., Berkeley Square, London, W. 1, England

*Examinations for certification.

Name	Date	City	Secy. or Chm.	Address
International Association of Dental Research	June 21–22	Chicago	E. H. Hatton Secy.	School of Dentistry, Northwestern University, 311 E. Chicago Ave., Chicago
Academy of Denture Prosthetics	July 28–Aug. 3	Boston	I. L. Furnas Secy.	928 Silverado St., La Jolla, Calif.
International Dental Congress, Tenth Annual Meeting	Aug. 4–8	Boston	C. F. L. Nord Secy.	The Hague, Holland
New England Health Institute	June 16–18	Durham, N. H.	Agnes Brennan Secy.	New Hampshire State Health Department, Concord
University of Oregon, Annual Dental School Alumni Meeting	Sept. 25–27	Portland	R. B. Keller Secy.	Medical-Dental Bldg., Portland
Wisconsin Dental Economic Study Club	Aug. 29–30	Madison	M. M. Tuttle Secy.	20 N. Carroll St., Madison 3

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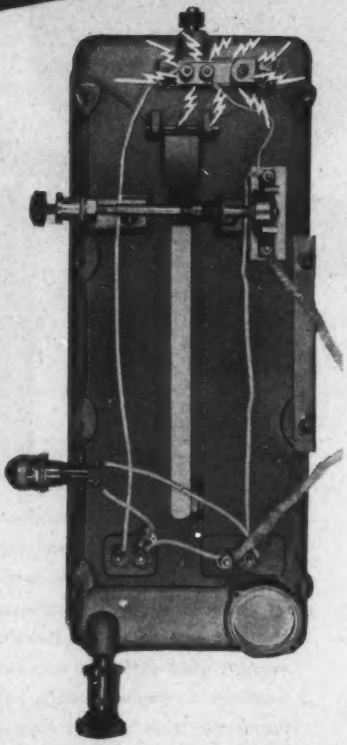

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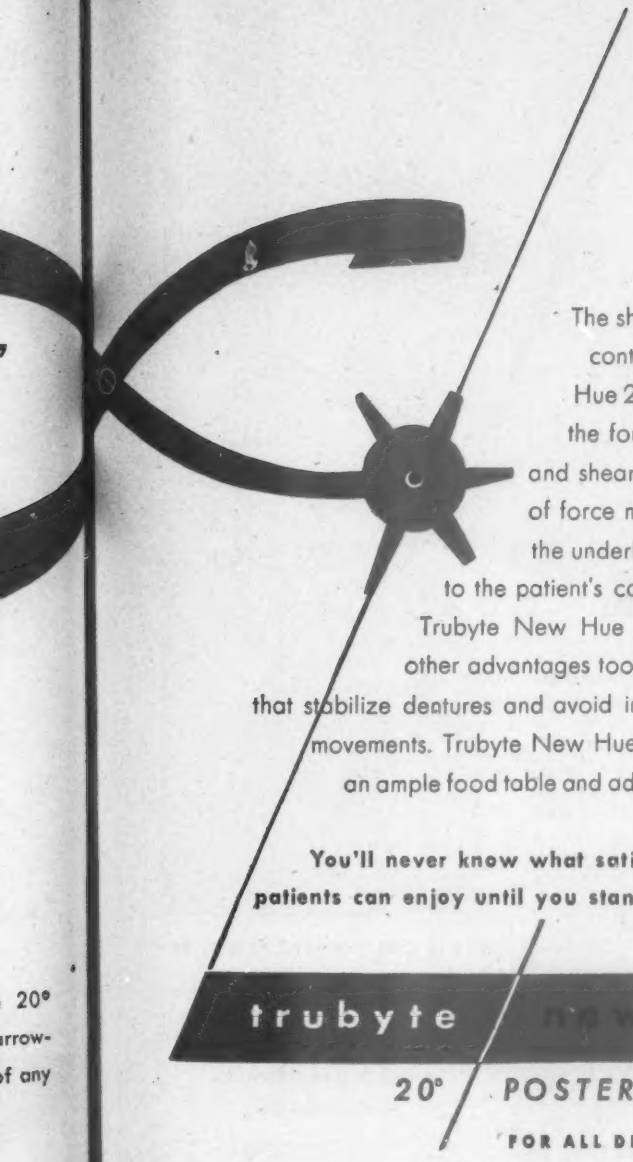

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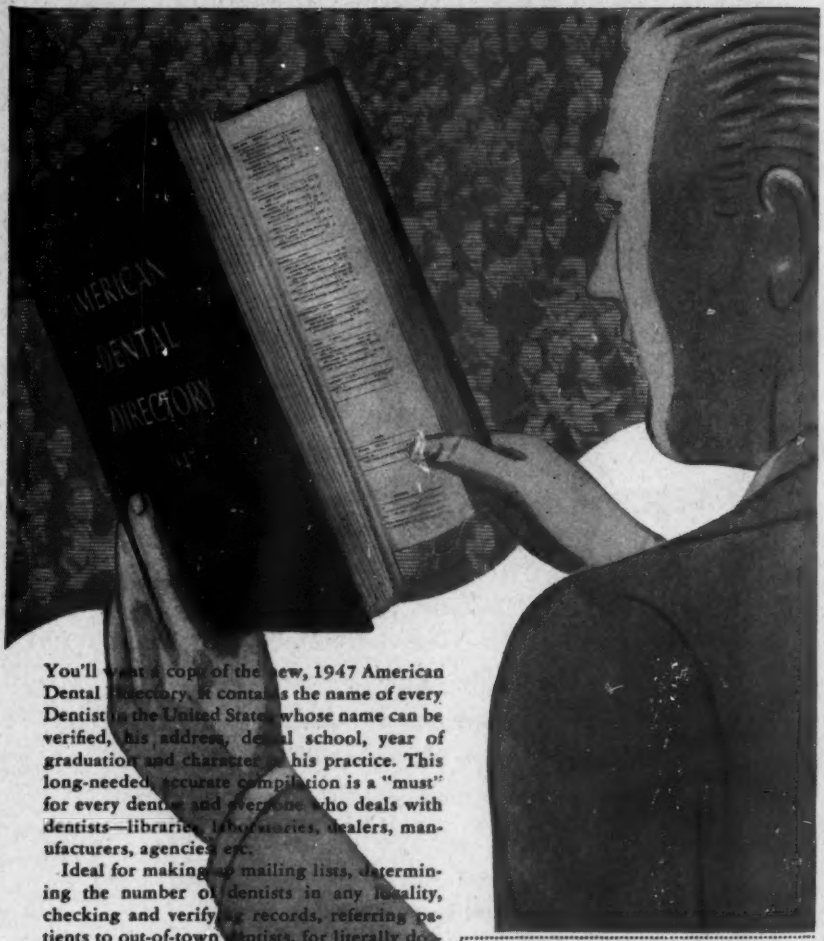

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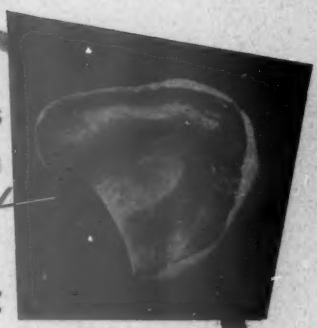

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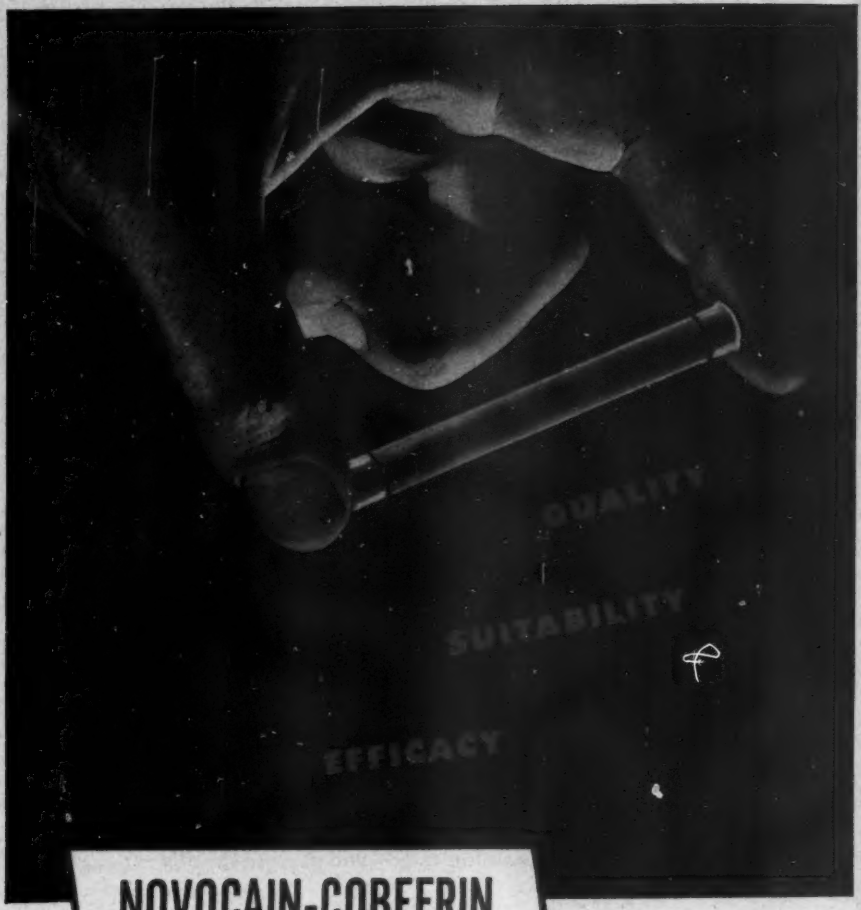

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Heidbrink equipment includes two easy-to-understand, easy-to-use machines for analgesia. The *Heidbrink Airator* (illustrated) administers nitrous oxid and air in suitable mixture for producing analgesia when self-administered by the patient. The *Heidbrink Simplex* provides facilities for all the technics for nitrous oxid anesthesia as well as analgesia. With either the Airator or the Simplex there are only three simple steps to patient-controlled analgesia, as illustrated below.

•

Heidbrink dental anesthesia and analgesia apparatus, Ohio dental gases, ethyl chloride, Maves wax and Scanlan dental sutures are available through recognized "Ohio" dental dealers in principal cities. For complete information and booklet, "A Simple Story That Is Making Dental History", mail the coupon below.

Analgesia in 3 Easy Steps with the HEIDBRINK AIRATOR

STEP No. 1
Adjust breathing device

STEP No. 2
Set dosage control

STEP No. 3
Instruct patient in use of bulb

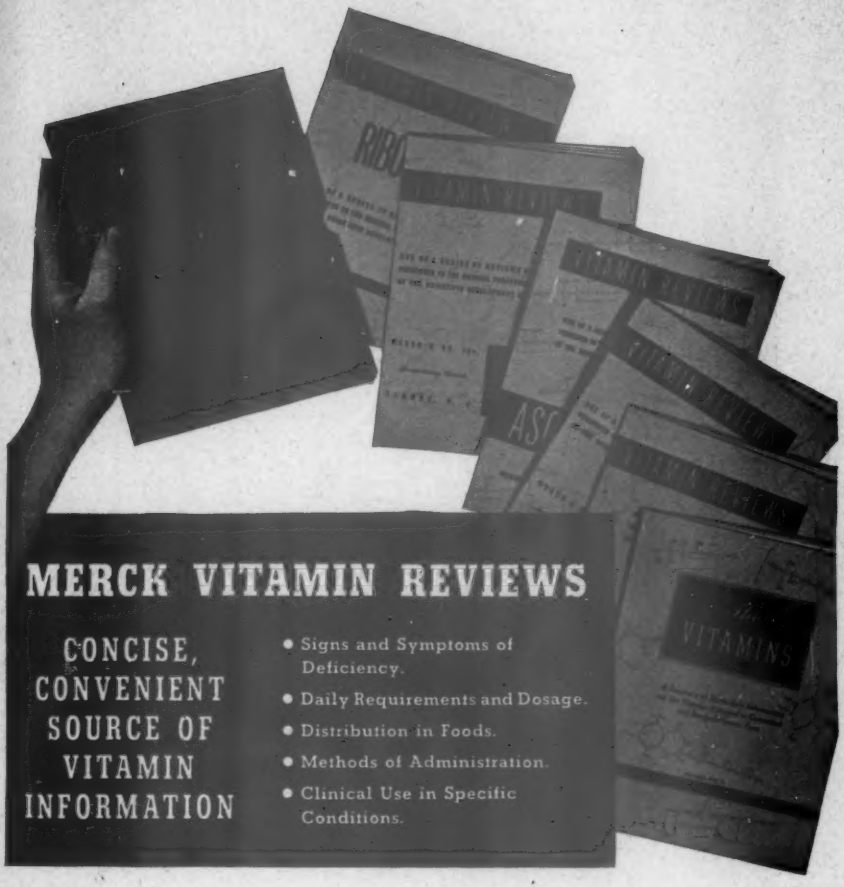
THE OHIO CHEMICAL & MFG. CO.
1400 EAST WASHINGTON AVENUE • MADISON 3, WISCONSIN
BRANCH OFFICES IN PRINCIPAL CITIES

In Canada: Oxygen Company of Canada Limited, Montreal and Toronto
Represented internationally by Airco Export Corporation
33 West 42nd Street, New York 18, N. Y.

THE OHIO CHEMICAL & MFG. CO., 1400 East Washington Avenue, Madison 3, Wisconsin
Please send: ☐ Your booklet, "A Simple Story That Is Making Dental History."

NAME _____ ADDRESS _____

CITY _____ STATE _____ JAD


MERCK VITAMIN REVIEWS
CONCISE, CONVENIENT SOURCE OF VITAMIN INFORMATION
• Signs and Symptoms of Deficiency.
• Daily Requirements and Dosage.
• Distribution in Foods.
• Methods of Administration.
• Clinical Use in Specific Conditions.
VITAMINS

A limited number of complete sets of these informative booklets has been gathered in a convenient slip-cover container, designed for ready reference. These are available as long as the supply lasts. The coupon is for your convenience.

MERCK

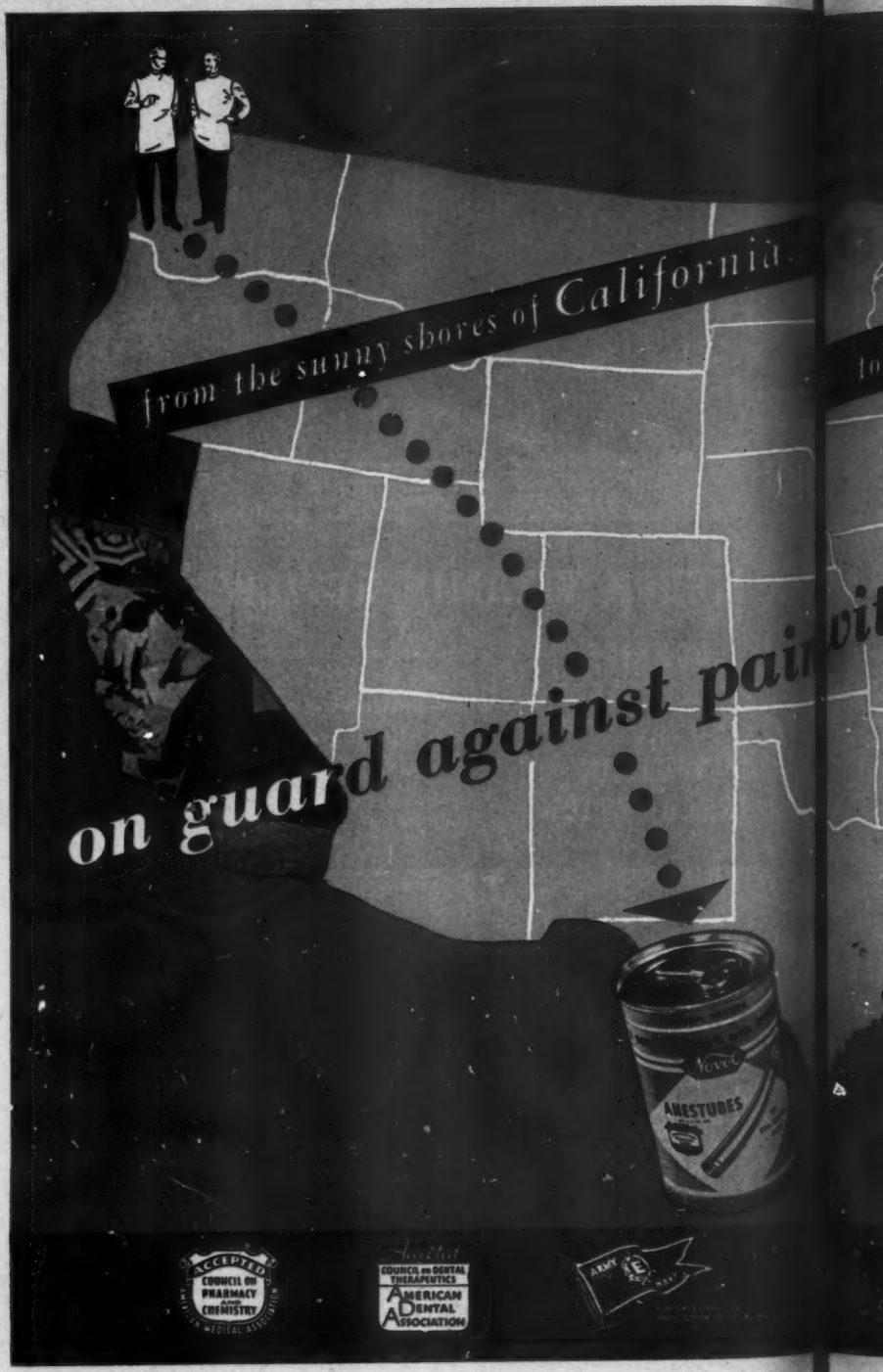
MERCK & CO., Inc., RAHWAY, N. J.
Manufacturing Chemists

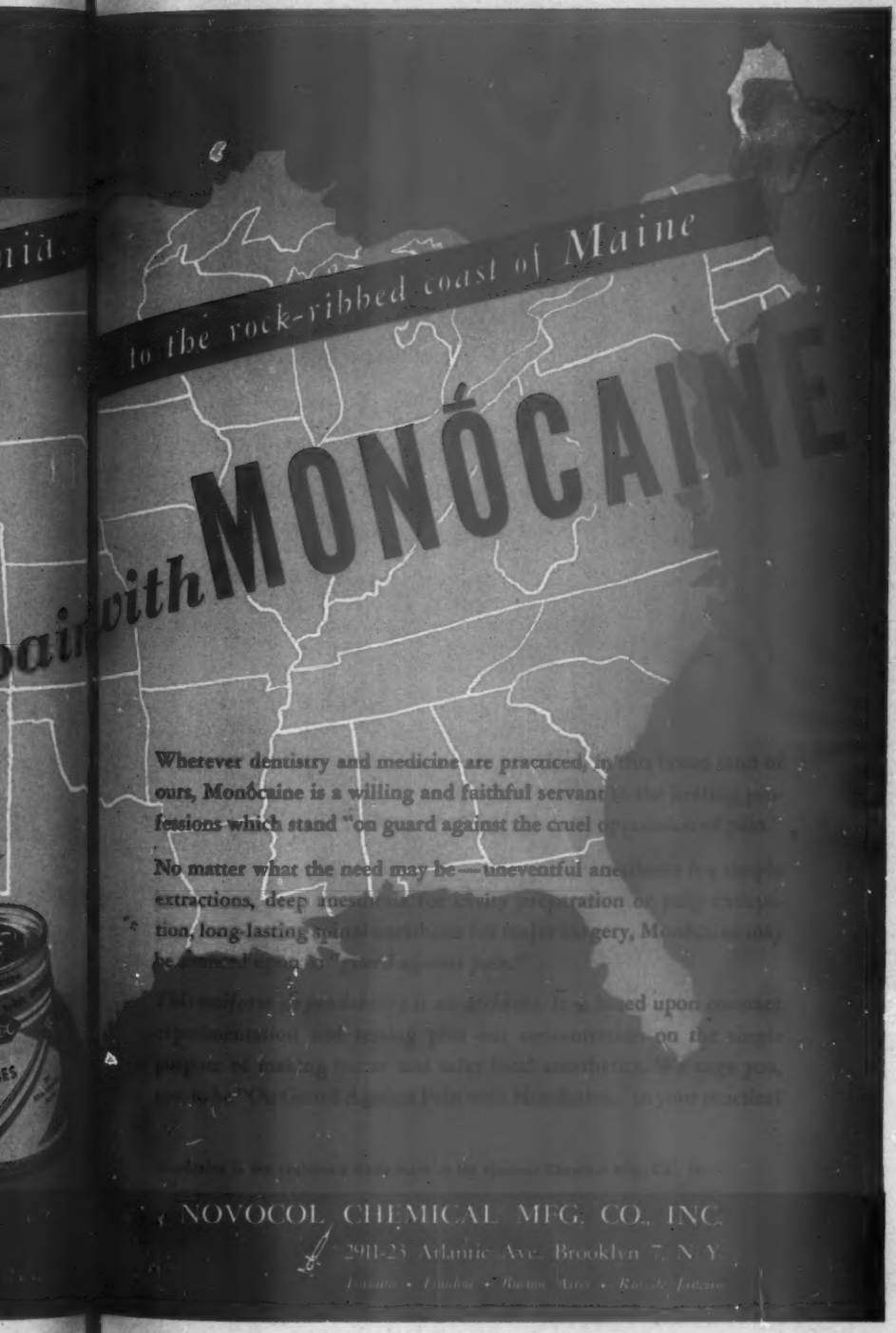
Please send me a complete set of *Merck Vitamin Reviews* in convenient slip-cover container.

Name.....

Street.....

City.....State.....


from the sunny shores of California
on guard against pain
ANESTUDES
ACCEPTED
COUNCIL ON PHARMACY AND CHEMISTRY
AMERICAN MEDICAL ASSOCIATION
COUNCIL on DENTAL THERAPEUTICS
AMERICAN DENTAL ASSOCIATION
ARMY


to the rock-ribbed coast of Maine
with MONÓCAINE
Whetever dentistry and medicine are practiced, in this rock-bound coast of ours, Monócaine is a willing and faithful servant of the healing professions which stand "on guard against the cruel onslaughts of pain."
No matter what the need may be—uneventful anesthesia for simple extractions, deep anesthesia for tooth preparation or pulp extirpation, long-lasting spinal anesthesia for major surgery, Monócaine may be depended upon to "stand guard against pain."
NOVOCOL CHEMICAL MFG. CO., INC.
29II-23 Atlantic Ave., Brooklyn 7, N. Y.
Toronto • London • Buenos Aires • Rio de Janeiro

Prolonged effect

in local mouth lesions

Troches of Bristol Penicillin dissolve slowly while resting in the buccal sulcus. Penicillin is gradually released into the saliva, bathing the accessible mucous lining of the oral cavity with an effective concentration of the antibiotic. Such direct and prolonged contact of penicillin with the local lesion is a basic principle of successful therapy in those cases caused by penicillin sensitive bacteria.

Penicillin troches are used with definite relief in *Vincent's gingivitis or stomatitis, and necratizing ulcerative gingivitis.*

BRISTOL PENICILLIN TROCHES, pleasantly flavored, are available in bottles of 20, each troche containing 1000 penicillin units. The excipient has been accurately designed with two pharmaceutical objects—to insure stability of the product in the bottle, and to insure a gradual release of the penicillin in the mouth.

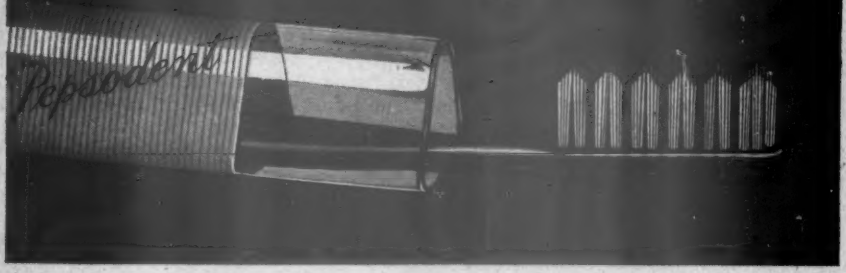
Bristol

LABORATORIES INC., SYRACUSE, NEW YORK

Important facts about the

Pepsodent Tooth Brush

Straight-line brushing surface design
Small, compact head • Fifty firmly anchored tufts
Fibrex* bristles—Du Pont's finest



A Product of Lever Brothers Company

**Trade Mark Reg. U. S. Pat. Off.*

Pepsodent

DIVISION OF LEVER BROTHERS COMPANY

S.S.WHITE

It's going great

WHAT IT IS

ZINC SILICATE is a zinc-silico-phosphate filling material, a carefully worked out formula, not a mere mechanical mixture of zinc phosphate and alumino-silicate cements. Zinc Silicate is different from either of these and has a definite place in dental practice. It mixes and sets (jells) like a silicate.

APPLICATIONS

Zinc Silicate is not a substitute for gold, amalgam, fused porcelain, or Filling Porcelain Improved.

For cervical, proximal, and pit cavities in permanent bicuspids and molars when esthetics is a prime factor.

For pits, fissures and deep, food retaining sulci (prophylactic odontotomy), and other cavities in deciduous teeth.

It may be used for M.O. and D.O. fillings, but only when there is sufficient bulk of Zinc Silicate, and adequate wall support, to withstand masticatory stresses.

May be used in deep cavities in posterior teeth when it is feared that metal restorations may produce thermal shock. These cavities should be lined or based properly however before inserting Zinc Silicate.

For cavities under clasps to avoid shock.

FEATURES

Compressive strength 35,000 lbs. per square inch in 7 days . . . twice the strength of a good zinc phosphate cement at filling consistence . . . stronger than the best anterior silicate.

Resists crushing stress of 31,600 lbs. per square inch in 24 hours after set . . . stronger than any similar material . . . greater protection during critical first 24 hours.

Low initial solubility, 0.25% by weight, 7 days.

Four tooth colors for perfect blend with dentine and enamel of posterior teeth. Opacity 0.90 ($C_{0.70}$).

Mixes smooth . . . sets in 5¼ minutes . . . allows ample working time.

Celluloid strips or forms not required although these aid finishing.

Easy to apply and saves time when filling children's teeth.

A strong, more durable esthetic filling material for permanent posteriors and deciduous teeth

4 COLORS
(These are in your Filling Porcelain Color Matching Guide)

- No. 16 DARK YELLOW
- No. 20 PALE YELLOW
- No. 21 LIGHT YELLOW
- No. 24 YELLOW-GRAY

Introductory Package

4 Full portion (20 gms. ea.) powders, 1 ea. Nos. 16, 20, 21, 24
2 Full portion (20 cc. ea.) bottles of liquid
1 Trial size powder No. 20
1 Trial size bottle of liquid
1 Powder carrier

Value exclusive of trial powder and liquid $10.00

PRICE PER PACKAGE **$8.25**

Single powders (20 gms.) $2.00
Liquid, full portion (20 cc.) $1.00 per bottle

TRY *before you buy*

Each package contains a trial powder and liquid to let you prove the merit of Zinc Silicate. If you like it, you will receive a statement for four powders and two liquids only. Return these in salable condition if the trial proves other than satisfactory. No charge will be made for the trial powder and liquid.

THE S. S. WHITE DENTAL MFG. CO., PHILADELPHIA, PA.

Give your partial and complete dentures...

6 IMPORTANT ADVANTAGES *with* Platinum-PALLADIUM-Golds

DENTAL GOLDS containing platinum and palladium form accurate, one-piece castings. Surfaces need but a minimum of finishing. Write for: *"Platinum-Palladium-Golds in Dentistry."*

1. Increased strength combined with appropriate resiliency.
2. Controllable hardness for resistance to wear.
3. Strong, high-carat solders can be used.
4. Ease in hardening and softening operations.
5. Resistance to discoloration.
6. Rapid transmission of heat and cold sensations *(most important in full upper plates).*

Platinum Metals Division
THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall St., New York 5, N. Y.

FOR THE *SUSTAINED* CONCENTRATION OF PENICILLIN SO ESSENTIAL IN VINCENT'S INFECTION

Penicillin Chewing Troches
SQUIBB*

"The pattern of response to penicillin administration in acute Vincent's infection of mouth or throat has generally been described as dramatic."[1]

The problem of adequate and sustained concentration of penicillin in the mouth is vastly simplified with Penicillin Chewing Troches Squibb. Each troche contains 20,000 units of penicillin calcium in a flavored paraffin base. This high potency helps to secure rapid and effective control of the infection.

Slow chewing of Penicillin Chewing Troches Squibb provides a high concentration of penicillin in the saliva during the first hour and significant levels *even at the end of four hours.* Infected tissues that might not be reached by more static methods of local administration can be reached with chewing troches.

Two or three troches daily have proved sufficient in many cases of Vincent's infection, but where conditions require a continuous high concentration of penicillin, the troche may be renewed every hour or two.

PLEASE SPECIFY SQUIBB WHEN WRITING YOUR PRESCRIPTION. **Box of 6 Troches.**

**Accepted by the Council on Dental Therapeutics of the American Dental Association.*

1. Rosebury, T.: J. Periodontia 17:121 (July) 1946.

MANUFACTURING CHEMISTS TO THE MEDICAL AND DENTAL PROFESSIONS SINCE 1858

Immediate Dentures!

YOU NEED NOT be concerned about retention in immediate dentures. A denture can be worn immediately after surgery with perfect retention, and without pain or discomfort, if it is lined with Konformax Rebase.

A lining of Konformax Rebase in a denture acts as a "cushion" that is very comforting to the patient, and also affords antiseptic protection. Such lining lasts from three to six months and can be added to at any time.

Konformax Rebase is equally efficient on partials as on full dentures . . . whether they be Acrylic, Metal or Vulcanite. Literature on request!

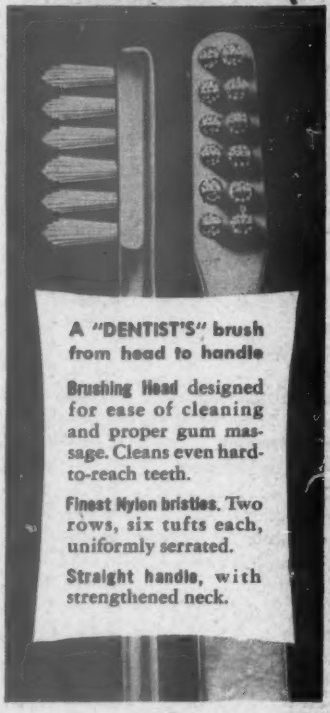
ORDER THROUGH YOUR DENTAL SUPPLY HOUSE

"Is that all, Doctor?"

• When a patient gets up from the chair, too often he says, "Well, that's that"—and thinks he can forget about his teeth now. You know, however, that he must supplement your skillful work with daily care on his own part. The Tek Professional tooth brush is designed to help him do this. As shown in the picture on the right, Tek is made to exacting professional requirements.

TEK CORPORATION
NEWARK, N. J.

Tek
Professional
TOOTH BRUSH


A "DENTIST'S" brush from head to handle
Brushing Head designed for ease of cleaning and proper gum massage. Cleans even hard-to-reach teeth.
Finest Nylon bristles. Two rows, six tufts each, uniformly serrated.
Straight handle, with strengthened neck.

Apply Now For

HOTEL RESERVATIONS

ANNUAL SESSION—AMERICAN DENTAL ASSOCIATION
BOSTON, MASSACHUSETTS—AUGUST 4-8, 1947

HOTELS AND RATES

(All rooms with bath unless otherwise specified)

NAME	SINGLES	DOUBLES	TWINS	SUITES
Hotel Avery	$ 3.30- 3.85	$ 5.50- 6.60	$ 6.60	None
Beacon Chambers	1.25- 2.00	None	2.50	None
Beaconsfield	3.00- 6.00	None	4.00- 7.00	$ 7.00-12.00
Bellevue	4.00-10.00	6.00- 8.25	7.25-10.00	10.00-15.00
Bostonian	3.00- 4.50	5.00- 7.00	5.00- 7.00	8.00-
Bradford	4.00- 5.00	6.00- 7.00	6.50- 8.00	12.00-14.00
Braemore	4.40- 6.60	6.00- 9.90	6.60- 9.90	9.90-25.00
Broadway	2.50- 3.00	4.00- 4.50	6.00	5.00- 9.00
Buckminster	4.50- 5.00	5.00- 6.50	5.00- 6.50	10.00-12.00
Charlesgate	3.50- 6.50	None	6.60-10.00	None
City Club	3.00- 4.00	4.00- 6.60	5.00- 6.60	None
Commander	3.50- 5.50	5.50- 6.50	7.00- 8.00	8.00-16.00
Commonwealth	2.00- 3.00	3.00- 4.00	3.00- 4.00	4.50- 5.75
Continental	4.00-	7.00-	7.00-	None
Copley Plaza	4.50- 8.80	7.75-11.00	7.75-11.00	15.00-25.00
Copley Square	3.00- 4.00	6.00	6.60- 7.00	10.00-
Essex	3.50- 4.00	5.00- 6.00	5.50- 6.00	None
Fensgate	4.00- 8.00	5.50-10.00	6.00-10.00	8.00-20.00
Gardner	3.50- 4.00	5.00- 6.00	6.00	7.50
Hampton Court Hotel	3.50- 4.00	5.50- 7.50	6.00- 7.50	7.50- 9.00
Hemenway	3.00- 3.85	4.40- 5.50	4.40- 5.50	None
Huntington	2.00- 3.50	3.00- 4.00	3.50- 5.00	None
Irvington Rooms	2.00-	None	3.00-	None
Kenmore	4.00- 5.00	6.50- 8.50	6.50- 8.50	10.00-15.00
Lafayette	4.40-	None	7.70-	10.00-20.00
Lenox	3.75- 4.50	5.50- 7.00	6.50- 7.50	9.00-16.00
Lincolnshire	3.85- 4.40	None	6.60- 7.00	None
Manger	3.85- 5.50	5.00- 6.60	6.50- 7.50	None
Manor House	None	None	5.00- 8.00	10.00
Minerva	3.00- 5.00	4.00- 5.00	5.00- 6.00	6.00
Myles Standish	3.85- 7.00	6.60- 8.00	6.50- 9.00	8.00-12.00
The Parker House	5.00- 5.50	7.00- 7.50	8.00- 8.50	15.00-16.00
Pioneer	3.00	None	4.00- 5.50	None
Puritan	4.40- 5.50	6.60- 8.80	6.60- 8.80	9.90-13.20
Ritz Carlton	5.50- 9.00	10.00-12.00	10.00-12.00	12.00-32.00
Sheraton	4.00-12.00	6.50-15.00	6.50-15.00	10.00-16.00
Somerset	7.00- 9.00	None	8.00-11.00	10.00-18.00
Statler	4.25- 9.50	7.00-12.00	8.50-15.00	15.00-25.00
Touraine	4.25- 6.00	6.00- 9.00	6.00- 9.00	14.00-16.00
University Club	5.00	None	8.00-	None
Vendome	3.75- 5.00	5.50- 8.75	6.50- 8.75	None

Read the Instructions *Before* Filling Out Application

1. Applications for room reservations are now being accepted.

2. All reservations must be made through the Housing Bureau of the Boston Chamber of Commerce. Do not send reservations to the Local Arrangements Committee or the American Dental Association Central Office.

3. All reservations made are subject to confirmation by holder by July 15. Forms for this purpose will be sent to reservation holders by the Housing Bureau about June 15. Failure of holder to confirm reservations by July 15 may result in their cancellation at the option of the Housing Bureau.

4. Read the classification list below and enter your classification at the place provided in the application form. If you classify in more than one category give all classifications. For example, if you are (a) a delegate, (b) a State Society President, and (c) an essayist—list all three classes.

CLASSIFICATIONS OF ELIGIBLE APPLICANTS FOR HOTEL ACCOMMODATIONS

Officer or Trustee
A.D.A. Committee Chairman or Secretary
Delegate
Alternate
Essayist
Clinician
Scientific Exhibitor
Commercial Exhibitor
State Society President or Secretary
District Society President or Secretary
Member
Dental Assistant
Dental Hygienist
Laboratory Technician
Unclassified—(Specify):

Application for Hotel Accommodations

Note: Single rooms are extremely limited in number. Please arrange to share twin bedded rooms.

A.D.A. Housing Bureau
80 Federal Street
Boston 10, Massachusetts

Please reserve accommodations as follows: (Give five choices of hotels.)

Hotel.....1st Choice
Hotel.....2nd Choice
Hotel.....3rd Choice
Hotel.....4th Choice
Hotel.....5th Choice

BE SURE TO CHECK THIS

Do you plan to attend a previous meeting? If so, which one:

.....

.....

Will you stay on for the A.D.A. Meeting beginning August 4?

☐ Yes ☐ No

.....Room(s) with bath for.....person(s) Rate Range $..... to $.....per room

.....Combination(s) for.....person(s) Rate Range $..... to $.....per room
(2 rooms, bath between)

.....Room(s) without bath for.....person(s) Rate Range $..... to $.....per room

.....Room(s) and parlor for.....person(s) Rate $.....

Arriving Boston.....Hour.....; Leaving Boston.....

Rooms will be occupied by: (Reservations cannot be made without names and addresses of occupants). Use extra sheet if insufficient space here.

Name	Street Address	City	State

Give name of firm if Commercial Exhibitor.....

Name.....

Street Address.....City.....Zone.....State.....

State your Classification (See Instruction 4 above).....

Note: Confirmation will come direct from hotel accepting reservations when made.

New Names for

Iodine Tinctures

Effective April 1, 1947, the following names became official in United States Pharmacopoeia XIII and National Formulary VIII:

1. Iodine Tincture U.S.P. XIII

[Official in U.S.P. XII as Mild Tincture of Iodine]

Formula

Iodine	20 Gm.
Sodium Iodide	24 Gm.
Diluted Alcohol, a sufficient quantity, To make	1000 cc.

2. Strong Iodine Tincture N.F.VIII

[Official in U.S.P. XII as Tincture of Iodine]

Formula

Iodine	70 Gm.
Potassium Iodide	50 Gm.
Distilled Water	50 cc.
Alcohol, a sufficient quantity, To make	1000 cc.

It will be noted that there are no changes in either formula and, of course, no change in effectiveness. In addition to its value as an antiseptic and germicide, Iodine continues to serve the profession in many other ways for the prevention, diagnosis, and treatment of disease.

IODINE EDUCATIONAL BUREAU, INC.
120 BROADWAY, NEW YORK 5, N. Y.

IODINE

OF SERVICE TO MEDICINE
FOR PREVENTION · DIAGNOSIS · THERAPY

A NEW BOOK!

Successfully correlates today's Practice of Dentistry and Medicine

Tells How to Recognize and Treat Oral Lesions

By
LESTER W. BURKET
M. D., D. D. S.
Professor of Oral Medicine, The Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania

In his authoritative book, Dr. Burket discusses thoroughly, the relationships between oral and systemic diseases. An outstanding feature is the 15-page Regional Diagnostic Index giving the local origin and systemic background of the conditions encountered in dental treatment. The known facts and diagnostic problems of the oral aspects of aviation medicine are given a precise and practical evaluation. A valuable working guide for physicians and dentists. An unusual textbook for dental and medical students.

340 ILLUSTRATIONS
60 IN FULL COLOR

The Illustrations in this book provide a valuable visual diagnostic index! The subjects in color present vivid, life-like pictures of the commoner lesions encountered in oral diseases.

674 Pages • $12.00

J. B. LIPPINCOTT COMPANY
East Washington Square, Phila. 5, Pa.

Enter my order and send me:

Burket's Oral Medicine — $12.00

☐ Cash Enclosed ☐ Send C. O. D.

Name _____

Street _____

City, Zone, State _____

ADA 6-47

LIPPINCOTT SELECTED PROFESSIONAL BOOKS

Krestex "MIRACLE GLASS"

OFFICIAL TESTED LABORATORY

A COMPLETE LINE OF PLASTIC PROFESSIONAL GARMENTS

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No. 607 PATIENTS' THROW $2.00
No. 601 DENTAL NURSES' APRON $1.00
No. 720 With Pocket $1.25

PRO-TEK BIB $1.00
No. 909 WAIST APRON $2.00
Black or Crystal Clear
No. 900 LABORATORY APRON $2.00
Black or Crystal Clear

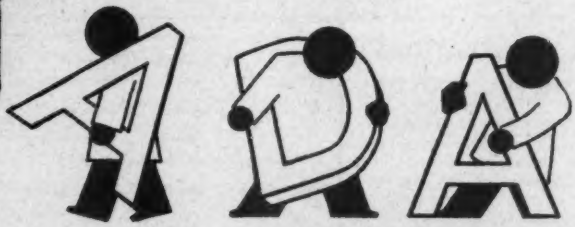
Send for Circular of Complete Line Available at Leading Dealers or Write Us Direct

Petra MANUFACTURING COMPANY
1545-49 WELLS STREET CHICAGO 10 ILLINOIS U. S. A.

Crescent® REG. U. S. PAT. OFF. SILVERLOY

PERFECT IN FORM
UNIFORM IN QUALITY
WHITE AND LUSTROUS

MEETS ALL



SPECIFICATIONS

Crescent DENTAL MANUFACTURING CO.
1839 South Pulaski Road, Chicago 23, Illinois

"...WHATSOEVER I SHALL SEE OR HEAR IN THE COURSE OF MY PROFESSION IN MY INTERCOURSE WITH MEN, IF IT BE WHAT SHOULD NOT BE PUBLISHED ABROAD, I WILL NEVER DIVULGE, HOLDING SUCH THINGS TO BE HOLY SECRETS." ...HIPPOCRATES

And it is our own constant determination to keep faith with the same high principles of the Oath of Hippocrates by which the profession is bound. Our malpractice counsel, service and procedure are confidential—and our coverage is complete.

THE
MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

Professional Protection EXCLUSIVELY . . . *since 1899*

Serving Dentistry and Dental Colleges for 30 Years

HEADQUARTERS

for

Dental Models and Brown Precision Attachments

16 page Illustrated Price List sent on request.
If interested in Attachments also ask for Twelve Design Charts.

COLUMBIA DENTOFORM CORPORATION

131 East 23rd Street **New York 10, N. Y.**

"The House of a Thousand Models"

Flossy

•

Complimentary Assortment for a Dollar Bill.

•

With a simple bite, cleans the 30 spaces

BETWEEN TEETH

where brushing can't.

AMALGAMATOR

Immediate Delivery $50 with All Accessories and VAX

NEW — MODERN — BEAUTIFUL

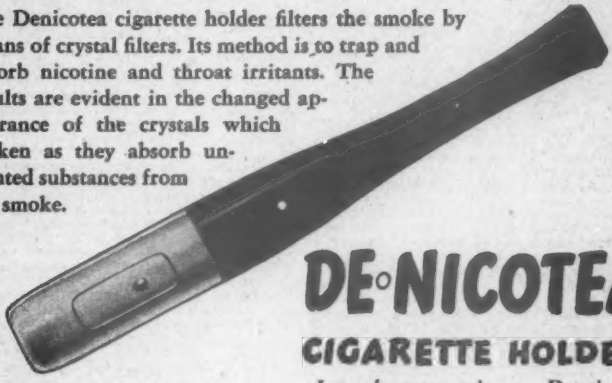
Startling Split—Condense Mixing Capsule.
No Pestles needed. Straight Impact. (Not a Wiggle.)
Perfectly timed, silent, quick proportions.

Send for circular. At all well established dealers.

Flossy Dental Corp., 228 So. Wabash Ave., Chicago, Ill.

HELPS GUARD TEETH AGAINST CIGARETTE STAINS

The Denicotea cigarette holder filters the smoke by means of crystal filters. Its method is to trap and absorb nicotine and throat irritants. The results are evident in the changed appearance of the crystals which darken as they absorb unwanted substances from the smoke.



DE·NICOTEA CIGARETTE HOLDER

Introductory price to Dentists

Denicotea cigarette holder $1 postpaid. Reg. price $2. Denicotea cigar holder $1.75, reg. $3.50. One of each only at these prices.

Crystal filter before using
Crystals are pure white

Crystal filter after using
You can see the difference

alfred dunhill
660 FIFTH AVENUE • NEW YORK 19

*Laboratory report on request.

Classified Advertising Department

Advertisements cost $3.50 not exceeding 30 words, additional words 10c each. Commercial agency advertisements, $3.50 for 20 words, additional words 13c each. Publisher reserves the right to determine classification. An extra fee of 25c is charged advertisers who have answers sent care of A.D.A. and in such cases we do not furnish name or address to inquirers. This rate applies for each insertion.

Forms close on 25th of second month preceding month of issue.

REMITTANCE MUST ACCOMPANY CLASSIFIED ADS.

PRACTICES FOR SALE

FOR SALE—Fifty year old practice, in Central Illinois town of 7,000. Complete single office and equipment in good building. Reasonable rent. Retiring. Address A. D. A. Dept. 5156.

FOR SALE—Dental practice and modern equipment located in one of the best Medical Buildings in Boston, Mass. Dentist retiring, wishes to turn full practice over to competent man. Address A.D.A. Dept. 5146.

COMPLETELY equipped one-man 2 chair dental office, located in the heart of the beautiful Florida Gold Coast. Right on Atlantic Ocean with splendid yachting and fishing. Fine opportunity for right man. Will stay with successor for period of time if he so desires. Florida license necessary. Address A. D. A. Dept. 5160.

FOR SALE—Dental office with good equipment in Southern Indiana town of 1,500. Doing splendid practice. Will sell residence. Address A. D. A. Dept. 5153.

FOR SALE—Due to death, Florida practice in large city established twenty years. Good industrial and agricultural center. Three chairs, gas machine, air compressor, and large fully equipped laboratory. Address A. D. A. Dept. 5159.

FOR SALE—Dental office with good equipment in Washington, Kansas. For information, see or write Charlie Swiercinsky, Washington, Kansas.

LOCATIONS AND PRACTICES AVAILABLE

FOR LEASE — Office in large apartment building. Centrally located on principal street. City population approximately 100,000 in Maine. Two Doctors of Medicine on first floor. Address A. D. A., Dept. 5150.

WANTED: Dentists under 40 years of age to fill vacancies in the staff of the Children's Fund of Michigan. Starting salary rate $4,250 per annum with merit increases. Other benefits. Michigan licensure is not required for this employment, provided the individual is a graduate of an accredited dental school and is licensed in another state. For detailed information write Kenneth R. Gibson, D.D.S., Director of Dentists, Children's Fund of Michigan, 660 Frederick Street, Detroit 2, Michigan.

WANTED—TRANSLATORS: To accurately translate medical and dental articles being submitted to foreign journals, or foreign literature being submitted to English publications. Part time work. Submit full qualifications. Academy-International of Medicine and Dentistry, 214 West Sixth Street, Topeka, Kansas.

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RETURNED veteran, competent, wishes associateship with established dentist about to retire with view to eventual purchase of practice. Prefer community of five to twenty thousand. Licensed New Jersey and Pennsylvania. Address A. D. A. Box 5158.

RETURNING veteran wishes association with view to taking over practice at some future date. Any desirable Ohio community and outright purchase will be considered. Eleven years general practice. Address A. D. A. Dept. 5162.

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(d) Dental hygienist for position in office of orthodontist having busy practice, town of 40,000, short distance from New York City; $70-$75 weekly.

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Dentist who has directed department of dentistry in large hospital for the past several years is available; degrees from middle western school; prefers position permitting him to conduct dental program, preferably in industry; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

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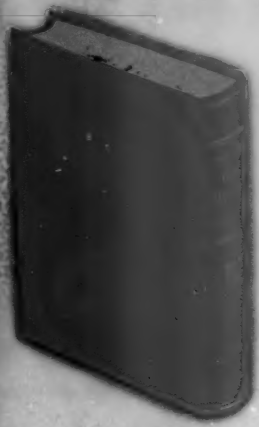

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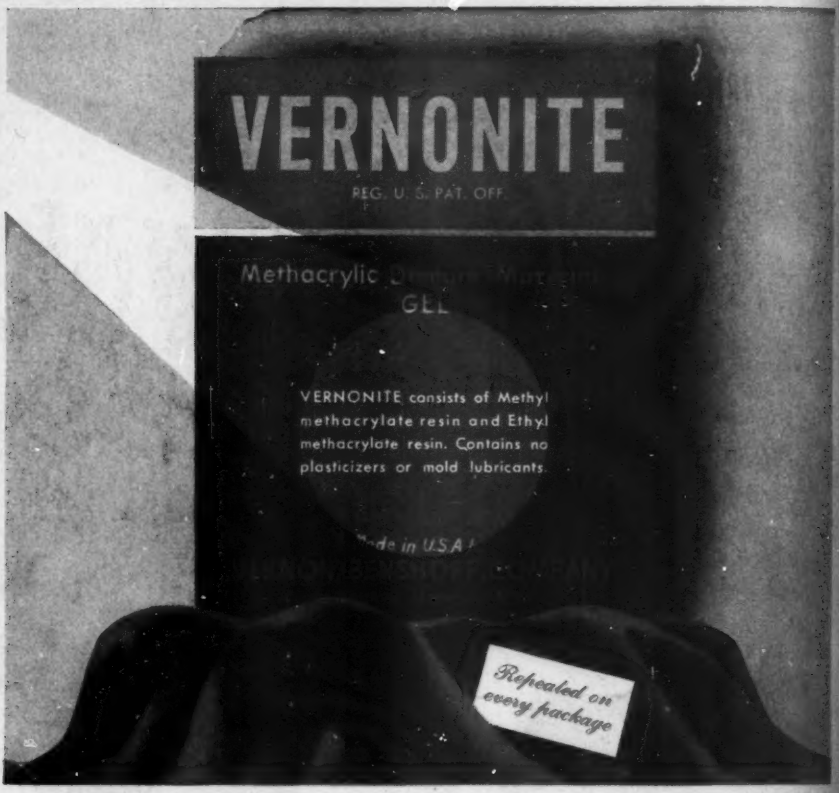
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